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NEWS 3	JUL 02	SCISEARCH enhanced with complete author names
NEWS 4	JUL 02	CHEMCATS accession numbers revised
NEWS 5	JUL 02	CA/CAplus enhanced with utility model patents from China
NEWS 6	JUL 16	CAplus enhanced with French and German abstracts
NEWS 7	JUL 18	CA/CAplus patent coverage enhanced
NEWS 8	JUL 26	USPATFULL/USPAT2 enhanced with IPC reclassification
NEWS 9	JUL 30	USGENE now available on STN
NEWS 10	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS 11	AUG 06	BEILSTEIN updated with new compounds
NEWS 12	AUG 06	FSTA enhanced with new thesaurus edition
NEWS 13	AUG 13	CA/CAplus enhanced with additional kind codes for granted patents
NEWS 14	AUG 20	CA/CAplus enhanced with CAS indexing in pre-1907 records
NEWS 15	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS 16	AUG 27	USPATOLD now available on STN
NEWS 17	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS 18	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS 19	SEP 13	FORIS renamed to SOFIS
NEWS 20	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS 21	SEP 17	CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS 22	SEP 17	CAplus coverage extended to include traditional medicine patents
NEWS 23	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 24	OCT 02	CA/CAplus enhanced with pre-1907 records from Chemisches Zentralblatt

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

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NEWS IPC8	For general information regarding STN implementation of IPC 8

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* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:13:00 ON 03 OCT 2007

=> FILE REG

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

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STRUCTURE FILE UPDATES: 2 OCT 2007 HIGHEST RN 949076-82-8
DICTIONARY FILE UPDATES: 2 OCT 2007 HIGHEST RN 949076-82-8

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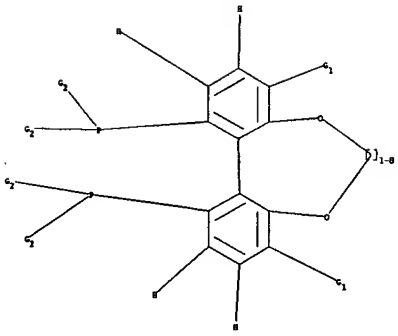
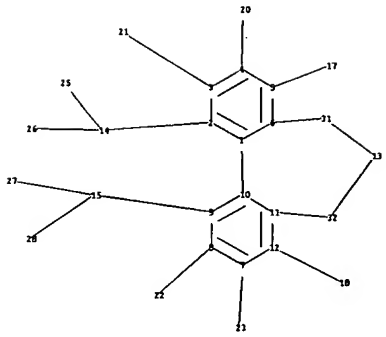
=>
Uploading C:\Program Files\Stnexp\Queries\BOY-4.str





chain nodes :
14 15 17 18 20 21 22 23 25 26 27 28
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 31 32
chain bonds :
2-14 3-21 4-20 5-17 7-23 8-22 9-15 12-18 14-25 14-26 15-27 15-28
ring bonds :
1-2 1-6 1-10 2-3 3-4 4-5 5-6 6-31 7-8 7-12 8-9 9-10 10-11 11-12 11-32
13-31 13-32
exact/norm bonds :
1-2 1-6 1-10 5-17 6-31 10-11 11-12 11-32 12-18 13-31 13-32 14-25 14-26
15-27 15-28
exact bonds :
2-14 3-21 4-20 7-23 8-22 9-15
normalized bonds :
2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10

G1:H,Cl

G2:Cb,Cy,Ak

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 17:CLASS 18:CLASS 20:CLASS
21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 31:CLASS
32:CLASS

L1 STRUCTURE UPLOADED

=> S L1 FULL
FULL SEARCH INITIATED 10:14:31 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2162 TO ITERATE

100.0% PROCESSED 2162 ITERATIONS 61 ANSWERS
SEARCH TIME: 00.00.01

L2 61 SEA SSS FUL L1

=> FILE CAPLUS

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.55	172.76

FILE 'CAPLUS' ENTERED AT 10:14:43 ON 03 OCT 2007
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FILE COVERS 1907 - 3 Oct 2007 VOL 147 ISS 15
FILE LAST UPDATED: 2 Oct 2007 (20071002/ED)

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=> S L2
L3 40 L2

=> D L3 IBIB ABS HITSTR 1-40

L3 ANSWER 1 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:748529 CAPLUS
TITLE: A Concise Asymmetric Synthesis of Torcetrapib
AUTHOR(S): Guino, Meritxell; Phua, Pim Huat; Caille, Jean-Claude; Hii, King Kuok
CORPORATE SOURCE: Department of Chemistry, Imperial College London, London, SW7 2AZ, UK
SOURCE: Journal of Organic Chemistry (2007), 72(16), 6290-6293
CODEN: JOCEAH; ISSN: 0022-3263

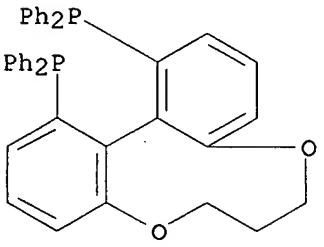
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Optically active torcetrapib was synthesized in seven steps from achiral precursors without the need for protecting groups, utilizing an enantioselective aza-Michael reaction to achieve asymmetry.

IT 301847-89-2
RL: CAT (Catalyst use); USES (Uses)
(ligand; concise preparation of torcetrapib via asym. aza-Michael reaction using palladium catalyst and chiral diphosphine ligands)

RN 301847-89-2 CAPLUS

CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



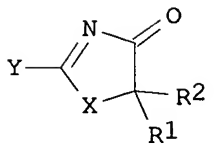
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:561667 CAPLUS
DOCUMENT NUMBER: 147:9895
TITLE: Catalyzed process of making C-5-substituted heterocyclic inhibitors of 11-β-hydroxy steroid dehydrogenase type 1
INVENTOR(S): Bunel, Emilio; Guram, Anil; Liu, Qingyian
PATENT ASSIGNEE(S): Amgen, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 16pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007117985	A1	20070524	US 2006-590922	20061101
WO 2007061600	A1	20070531	WO 2006-US42913	20061101

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2005-738574P P 20051122
OTHER SOURCE(S): CASREACT 147:9895; MARPAT 147:9895
GI



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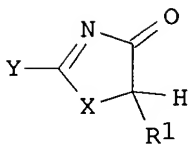
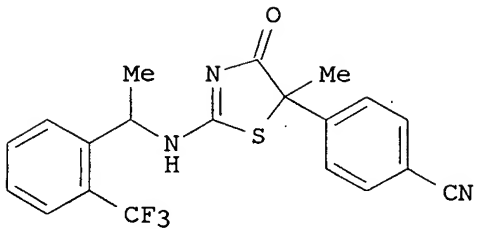


II



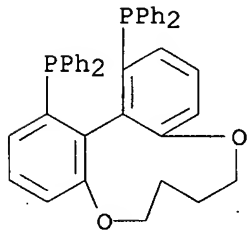
III

AB The invention provides a process for preparing 11-β-hydroxy steroid dehydrogenase type 1 inhibitors of formula I via a catalyzed reaction between a compound of formula II and a compound of formula R2LG in the presence of base. A process for preparing compds. of formula I from formula II and R2LG wherein X is S, O, NH and derivs.; Y is NH2 and derivs., OH and derivs., (un)substituted CH2, and SH and derivs.; LG is a leaving group; R1 is H, (un)substituted C1-8 alkyl, (un)substituted C2-8 alkenyl, (un)substituted C2-8 alkynyl, (un)substituted C1-4 alkoxy,-C1-4 alkyl, etc.; R2 is (un)substituted C2-8 alkenyl, (un)substituted C2-8 alkynyl, and (un)substituted (hetero)aryl; and their tautomers, stereoisomers, solvates, and pharmaceutically acceptable salts thereof, are claimed. Exemplary catalysts contain palladium and one or more phosphine ligands. The process can be performed in a stereoselective manner to give enantiomerically enriched products. Example compound III was prepared by palladium-catalyzed coupling of 5-methyl-2-((S)-1-(2-trifluoromethylphenyl)ethylamino)thiazol-4-(5H)-one with 4-bromobenzonitrile.

IT 499797-10-3 905714-07-0 905714-08-1
905714-09-2 905714-10-5 920317-38-0
RL: CAT (Catalyst use); USES (Uses)
(preparation of substituted thiazolone derivs. as inhibitors of 11-β-hydroxysteroid dehydrogenase type 1 using catalyzed coupling of aryl bromides thiazolones)

RN 499797-10-3 CAPLUS

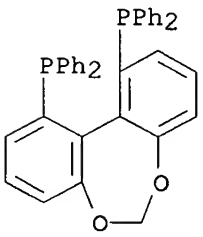
CN Phosphine, (6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



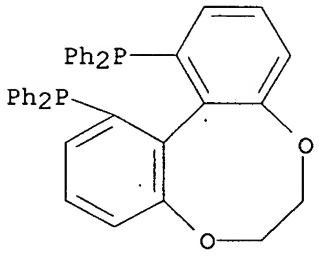
RN 905714-07-0 CAPLUS

CN Phosphine, dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA

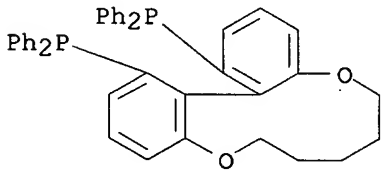
INDEX NAME)



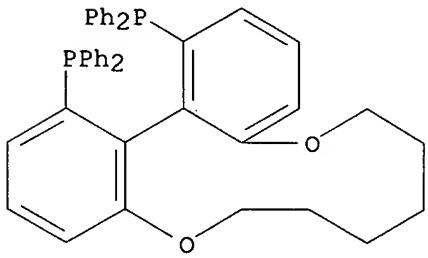
RN 905714-08-1 CAPLUS
CN Phosphine, (6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



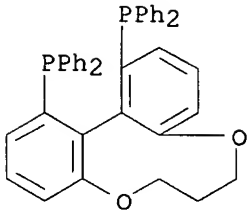
RN 905714-09-2 CAPLUS
CN Phosphine, (7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



RN 905714-10-5 CAPLUS
CN Phosphine, 1,1'-(6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl)bis[1,1-diphenyl- (CA INDEX NAME)



RN 920317-38-0 CAPLUS
CN Phosphine, 1,1'-(7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[1,1-diphenyl- (CA INDEX NAME)

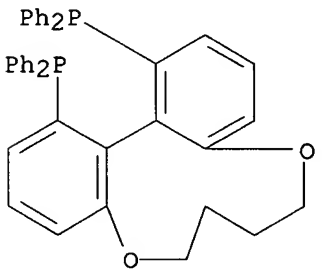


L3 ANSWER 3 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:82872 CAPLUS
DOCUMENT NUMBER: 146:213812
TITLE: Method for selectively catalyzing hydrogenated ketone by chiral diphosphorous complex of Pd
INVENTOR(S): Zhou, Yonggui; Wang, Youqing; Lu, Shengmei
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1899695	A	20070124	CN 2005-10012241	20050721
PRIORITY APPLN. INFO.:			CN 2005-10012241	20050721

AB The title chiral diphosphorous complex of Pd is synthesized by mixing Pd precursor and chiral diphosphorous ligand, stirring in acetone at room temperature, and vacuum-concentrating The catalysis of hydrogenated ketone can be performed at 25-75°C and 3-70atm with 2,2,2-trifluoro ethanol as the solvent. α-o-benzamide substituted ketone can be 92% asym. induced by the catalyst. The method has the advantages of simple operation, wide raw material resources, high selectivity and high product yield, and is environment-friendly.

IT 301847-90-5, (R)-C4-TunaPhos
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(method for selectively catalytic hydrogenation of ketone by chiral diphosphorous complex of palladium)
RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 4 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:61774 CAPLUS
DOCUMENT NUMBER: 146:162920

TITLE: Copper(II) catalyzed addition of acids, alcohols, amines, and thiols to alkenes.
INVENTOR(S): Hii, King Kuok
PATENT ASSIGNEE(S): IC Innovations Limited, UK
SOURCE: PCT Int. Appl., 41pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

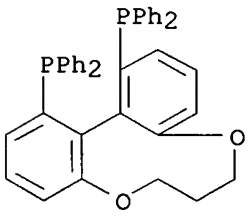
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007007084	A2	20070118	WO 2006-GB2558	20060710
WO 2007007084	A3	20070301		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: GB 2005-14321 A 20050712
GB 2006-9666 A 20060515

AB A process for the addition of a nucleophile (an acid, alc., amine, or thiol) to an alkene in the presence of a Cu(II) catalyst, was claimed. Thus, reaction of 4-methoxybenzoic acid with norbornene in dioxane in the presence of Cu(II) triflate at 80° to give 95% exo norbornyl ester.

IT 920317-38-0
RL: CAT (Catalyst use); USES (Uses)
(copper(II) catalyzed addition of acids, alcs., amines, and thiols to alkenes)
RN 920317-38-0 CAPLUS
CN Phosphine, 1,1'-(7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 5 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:33444 CAPLUS
DOCUMENT NUMBER: 146:133961
TITLE: Process for making diphosphine-ruthenium-diamine complexes
INVENTOR(S): Moran, Paul H.
PATENT ASSIGNEE(S): Dow Global Technologies Inc., USA
SOURCE: PCT Int. Appl., 21pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007005550	A1	20070111	WO 2006-US25450	20060628

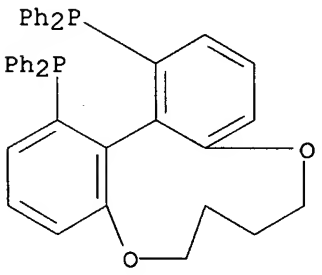
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2005-696273P P 20050701
OTHER SOURCE(S): CASREACT 146:133961; MARPAT 146:133961

AB A process is claimed for preparing diphosphine-Ru-diamine complexes by reacting a phosphine compound with an arene Ru compound in a 1st solvent to produce an intermediate mixture comprising a diphosphine-Ru compound, the 1st solvent consisting essentially of a mixture of an aprotic solvent and a protic solvent.;. The 1st solvent is removed from the intermediate mixture to produce an intermediate solid comprising the diphospMne-Ru compound Then the intermediate solid comprising the diphosphine-Ru compound is reacted with a diamine and a 2nd solvent to produce the diphosphine-Ru-diamine complex, the 2nd solvent consisting essentially of an aprotic solvent selected from the group consisting of ethers and hydrocarbon solvents. For example, RuCl2LL1 (L = (R)-2,2'-bis(3,5-xylyl)phosphino-1,1'-binaphthyl; L1 = (2R)-1,1-bis(4-methoxyphenyl)-3-methyl-1,2-butanediamine) was prepared by reaction of L with [(p-cymene)RuCl2]2 in EtOH and CH2Cl2, followed by solvent removal and the addition of L1 in THF.

IT 301847-90-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for process for preparation of ruthenium diamine diphosphine complexes)
RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



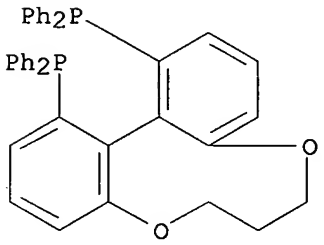
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:895971 CAPLUS
DOCUMENT NUMBER: 145:455102
TITLE: Evaluation of Asymmetric Hydrogenation Ligands in Asymmetric Hydroformylation Reactions. Highly Enantioselective Ligands Based on Bis-phosphacycles

AUTHOR(S): Axtell, Alex T.; Klosin, Jerzy; Abboud, Khalil A.
CORPORATE SOURCE: Corporate R & D, The Dow Chemical Company, Midland, MI, 48674, USA
SOURCE: Organometallics (2006), 25(21), 5003-5009
CODEN: ORGND7; ISSN: 0276-7333
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:455102

AB An evaluation of 47 P-based ligands was conducted in Rh-catalyzed asym. hydroformylation reactions, AHF, at high temperature Most of the ligands exhibited poor enantio- and regioselectivity as well as low catalytic activity. Two ligands, (R)-Binapine and (S,S,R,R)-TangPhos, gave outstanding enantioselectivities in asym. hydroformylation of styrene, allyl cyanide, and vinyl acetate. (R)-Binapine gave 94% ee, 94% ee, and 87% ee, whereas (S,S,R,R)-TangPhos gave 90% ee, 93% ee, and 83% ee for hydroformylation products of styrene, allyl cyanide, and vinyl acetate, resp. Enantioselectivity achieved for the allyl cyanide product with these ligands is the highest ever reported for this substrate. Excess of (S,S,R,R)-TangPhos leads to low enantioselectivities in the AHF of styrene and allyl cyanide due to in situ formation of the ionic complex [[((S,S,R,R)-TangPhos)2]Rh]+[acac]-. The noncoordinating acetylacetonate anion is responsible for this sharp decrease of enantioselectivity in hydroformylation products. X-ray crystal structures of [[((S,S,R,R)-TangPhos)2]Rh]+[acac]- and [(S,S,R,R)-TangPhos]Rh(acac) were determined and examined The high success achieved with bis-phosphacycle ligands in asym. hydroformylation reactions suggests that this ligand class is unique and highly promising among previously studied P-based systems and should be further explored in search of even better ligands for this important reaction.

IT 301847-89-2
RL: CAT (Catalyst use); USES (Uses)
(Rh-catalyzed asym. hydroformylation reactions of alkenes in the presence of chiral bisphosphacycle ligands)
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:866581 CAPLUS
DOCUMENT NUMBER: 145:271387
TITLE: Process for the preparation of enantiomerically pure 1-substituted-3-amino alcohols using methyl ketones, primary amines, formaldehydes and sulfonic acids
INVENTOR(S): Brieden, Walter; Clausen, Martin; McGarrity, John; Mettler, Hanspeter; Michel, Dominique
PATENT ASSIGNEE(S): Lonza A.-G., Switz.

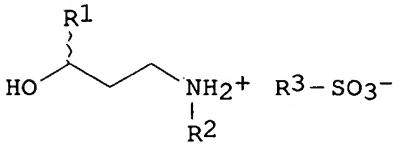
SOURCE: PCT Int. Appl., 38pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006087166	A1	20060824	WO 2006-EP1334	20060214
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1693371	A1	20060823	EP 2005-3657	20050221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
AU 2006215811	A1	20060824	AU 2006-215811	20060214

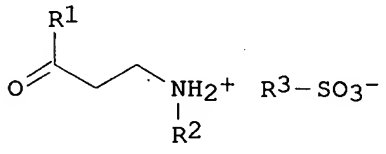
PRIORITY APPLN. INFO.: EP 2005-3657 A 20050221
WO 2006-EP1334 W 20060214

OTHER SOURCE(S): CASREACT 145:271387; MARPAT 145:271387

GI



I

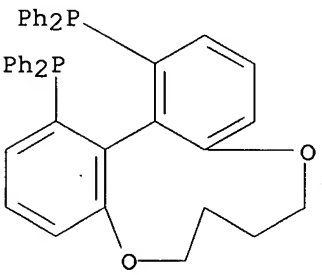


II

AB Provided is a process for the preparation of N-monosubstituted β-aminoalc. sulfonates of formula I. Compds. of formula I wherein R1 is (un)substituted C6-20 aryl or (un)substituted C4-12 heteroaryl; R2 is C1-4-alkyl or (un)substituted C6-20 aryl; R3 is selected from the group consisting of C1-18 alkyl, C6-20 cycloalkyl, C6-20 aryl and C7-20 aralkyl residues, and the process for preparing compds. of formula I are claimed. The process comprising the steps of a) reacting a Me ketone, a primary amine, formaldehyde and a sulfonic acid, at a pressure above 1.5 bar, optionally in a organic solvent, said organic solvent optionally containing water, to afford N-monosubstituted β-amino ketone sulfonates of formula II, wherein R1, R2 and R3 are as defined above, and b) asym. hydrogenating said sulfonates in the presence of a base and a catalyst, comprising a transition metal and a diphosphine ligand, in a polar solvent, optionally in the presence of water.

IT 486429-94-1, (S)-C4-TunePhos
RL: CAT (Catalyst use); USES (Uses)
((S)-C4-TunePhos, catalyst; preparation of enantiomerically pure sulfonate salts of substituted amino alcs. and amino ketones by reacting Me ketones, primary amine, formaldehyde and sulfonic acids)

RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:787894 CAPLUS
DOCUMENT NUMBER: 145:230875
TITLE: Preparation of optically active β-hydroxy amino acids with ruthenium-optically active phosphine complexes
INVENTOR(S): Washio, Noriyuki; Hirao, Sumitaka; Katsuura, Akio
PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006206570	A	20060810	JP 2005-160900	20050601
PRIORITY APPLN. INFO.:			JP 2004-376578 A	20041227

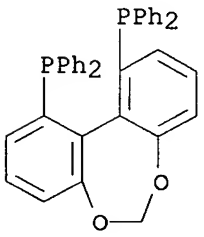
OTHER SOURCE(S): MARPAT 145:230875
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

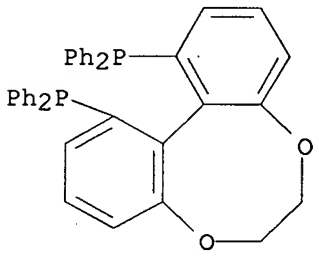
AB Optically active HOCHR1CH(NHCOR3)CO2R2 [R1 = (un)substituted C1-8 alkyl, (un)substituted C2-8 alkenyl, alkynyl, (poly)cyclic (hetero)cyclyl; R2 = H, C1-4 alkyl, (un)substituted Ph, (un)substituted PhCH2; R3 = H, C1-4 alkyl, C1-4 alkoxy, (un)substituted (alkoxy)phenyl] are prepared by asym. reduction of R1COCH(NHCOR3)CO2R2 (R1-R3 = same as above) in the presence of [RuX2(L)](dmf)n, [Ru2Cl4(L)2]Et3N, or [RuX(arene)(L)]Y (X = Cl, Br, iodine; n = 0-3; L = optically active Cm-TunaPhos I, II, III; m = 1-6; R = H, Me, CMe3, MeO; dmf = DMF; arene = C6H6, p-cymene; Y = Cl, Br, iodine, BF4, BPh4). Thus, Et 2-benzoylamino-3-cyclohexyl-3-oxopropionate was autoclaved with [RuCl2[(S)-C3-TunaPhos]](dmf)n in CH2Cl2 to give 100% Et (2R,3S)-2-benzoylamino-3-cyclohexyl-3-hydroxypropionate with 97% de.

IT 905714-07-0D, complexes with Ru compds. 905714-08-1D, complexes with Ru compds. 905714-09-2D, complexes with Ru compds. 905714-10-5D, complexes with Ru compds.
RL: CAT (Catalyst use); USES (Uses)
(optically active; preparation of optically active hydroxy amino acids with Ru-phosphine complexes as stereoselective reduction catalysts)

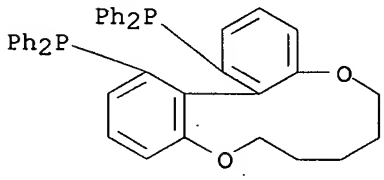
RN 905714-07-0 CAPLUS
CN Phosphine, dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



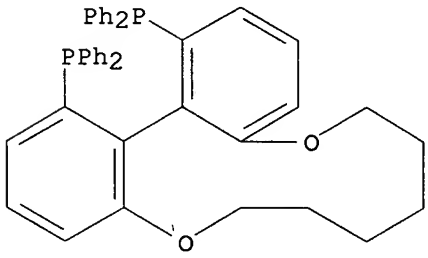
RN 905714-08-1 CAPLUS
CN Phosphine, (6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



RN 905714-09-2 CAPLUS
CN Phosphine, (7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



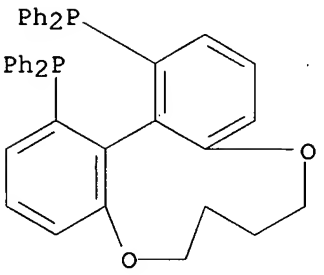
RN 905714-10-5 CAPLUS
CN Phosphine, 1,1'-(6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl)bis[1,1-diphenyl- (CA INDEX NAME)



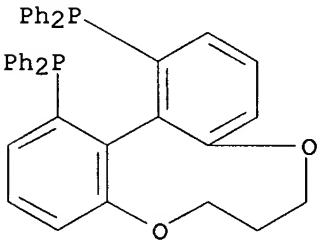
IT 486429-94-1DP, complexes with DMF and Ru compound
486429-99-6DP, complexes with DMF and Ru compound
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);

USES (Uses)
(preparation of optically active hydroxy amino acids with Ru-phosphine complexes as stereoselective reduction catalysts)

RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

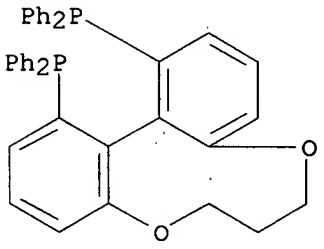


RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

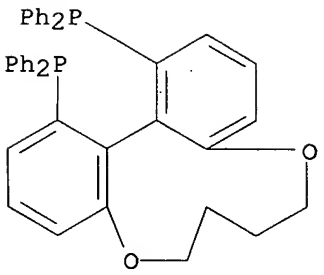


IT 301847-89-2 486429-94-1 486429-99-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of optically active hydroxy amino acids with Ru-phosphine complexes as stereoselective reduction catalysts)

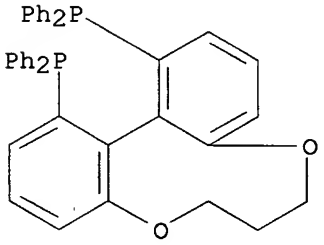
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



L3 ANSWER 9 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:787890 CAPLUS
DOCUMENT NUMBER: 145:230874
TITLE: Preparation of optically active anti-β-hydroxyamino acids
INVENTOR(S): Washio, Noriyuki; Hirao, Sumitaka; Katsuura, Akio
PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
JP 2006206569	A	20060810	JP 2005-160899		20050601
PRIORITY APPLN. INFO.:			JP 2004-376577	A	20041227

OTHER SOURCE(S): MARPAT 145:230874
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

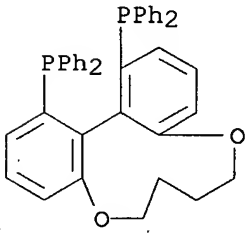
AB Optically active HOCHR1CH(NH2.HX)CO2R2 [R1 = (un)substituted C1-8 alkyl, (un)substituted C2-8 alkenyl, alkynyl, (poly)cyclic (hetero)cyclyl; R2 = H, C1-4 alkyl, (un)substituted Ph, (un)substituted PhCH2; HX = HCl, HBr, H2SO4, HNO3, H3PO4, HCO2H, AcOH, p-TsOH, CF3SO3H, etc.] are prepared by asym. reduction of R1COCH(NH2.HX)CO2R2 (R1-R3 = same as above) in the presence of [RuX2(L)](dmf)n, [Ru2Cl4(L)2]Et3N, or [RuX(arene)(L)]Y (X = Cl, Br, iodine; n = 0-3; L = optically active Cm-TunePhos I, Me-f-KetalPhos, Me-KetalPhos, II; m = 1-6; R = H, Me, CMe3, MeO; dmf = DMF; arene = C6H6,

p-cymene; Y = Cl, Br, iodine, BF4, BPh4). Thus, Et 2-amino-3-cyclohexyl-3-oxopropionate HCl salt was autoclaved with [RuCl2[(R)-C3-TunePhos]](dmf)n in CH2Cl2 to give 100% Et (2R,3R)-2-amino-3-cyclohexyl-3-hydroxypropionate HCl salt with 98% de.

IT 499797-10-3D, complexes with Ru compds. 905714-07-0D, complexes with Ru compds. 905714-08-1D, complexes with Ru compds. 905714-09-2D, complexes with Ru compds. 905714-10-5D, complexes with Ru compds.
RL: CAT (Catalyst use); USES (Uses)
(optically active; preparation of optically active anti-hydroxy amino acids with Ru-phosphine complexes as stereoselective reduction catalysts)

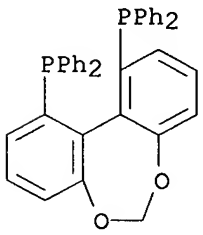
RN 499797-10-3 CAPLUS

CN Phosphine, (6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



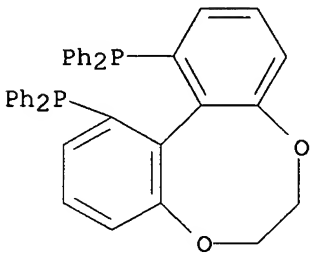
RN 905714-07-0 CAPLUS

CN Phosphine, dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



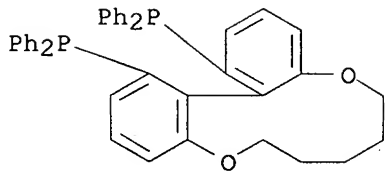
RN 905714-08-1 CAPLUS

CN Phosphine, (6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

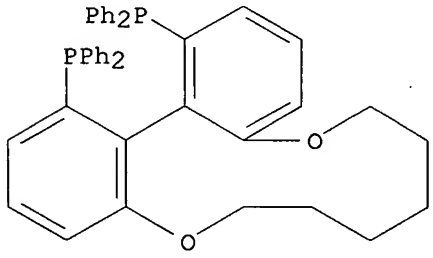


RN 905714-09-2 CAPLUS

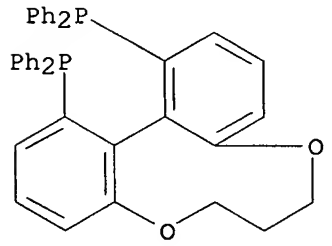
CN Phosphine, (7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



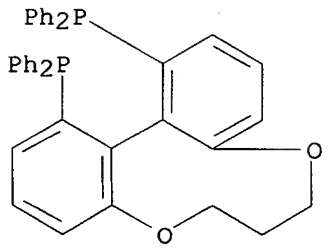
RN 905714-10-5 CAPLUS
CN Phosphine, 1,1'-(6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl)bis[1,1-diphenyl- (CA INDEX NAME)



IT 301847-89-2DP, complexes with Ru compound and DMF
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of optically active anti-hydroxy amino acids with Ru-phosphine complexes as stereoselective reduction catalysts)
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



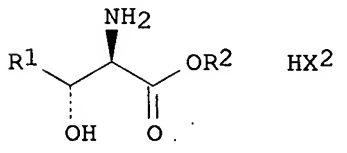
IT 301847-89-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of optically active anti-hydroxy amino acids with Ru-phosphine complexes as stereoselective reduction catalysts)
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



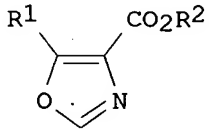
L3 ANSWER 10 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:678138 CAPLUS
DOCUMENT NUMBER: 145:124843
TITLE: Preparation of (2R,3R)-3-substituted-D-serine inorganic salts, novel oxazoles, and novel β-keto amino acid salts with organic acids
INVENTOR(S): Katsuura, Akio; Washio, Noriyuki; Hirao, Sumitaka
PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006182681	A	20060713	JP 2004-376579	20041227
PRIORITY APPLN. INFO.:			JP 2004-376579	20041227

OTHER SOURCE(S): CASREACT 145:124843; MARPAT 145:124843
GI



I



II

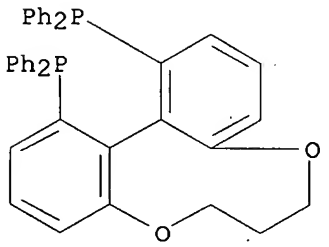
AB Title serines I [R1 = (un)substituted C1-8 alkyl, (un)substituted C2-8 alkenyl, alkynyl, C3-15 (un)substituted (poly)cyclic (hetero)cyclyl (having 1-5 O, N, and/or S); R2 = Me, Et; HX2 = HCl, HBr, HNO3, H2SO4] are prepared by ring cleavage of oxazoles II (R1, R2 = same as above) with organic acids, salt-exchange of the resulting R1COCH(NH2)CO2R2.HX1 (R1, R2 = same as above; HX1 = AcOH, p-MeC6H4SO3H, MeSO3H, oxalic acid), followed by stereoselective reduction of the β-keto amino acid inorg. salts with asym. catalysts. Thus, cyclization of Et isocyanoacetate with cyclohexanecarbonyl chloride gave 90% Et 5-cyclohexyl-4-oxazolecarboxylate, which was treated with p-MeC6H4SO3H.H2O in EtOH, neutralized, converted into HCl salt, and treated with [RuCl2[(R)-C3-TunePhos]](dmf)n [C3-TunePhos = (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis(diphenyl)phosphine; dmf = DMF, n = 0-3] under H to afford (2R,3R)-3-cyclohexyl-D-serine Et ester HCl salt with 99.5% ee.

IT 301847-89-2
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(in catalyst preparation; preparation of optically active serines with Ru complex

catalysts from oxazoles via β-keto amino acids)

RN 301847-89-2 CAPLUS

CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



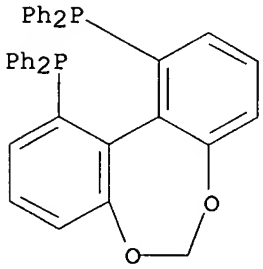
IT 301847-87-0D, complexes 301847-88-1D, complexes 301847-90-5D, complexes 301847-91-6D, complexes 301847-92-7D, complexes

RL: CAT (Catalyst use); USES (Uses)

(preparation of optically active serines with Ru complex catalysts from oxazoles via β-keto amino acids)

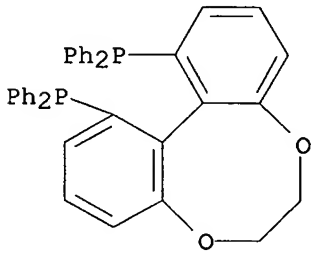
RN 301847-87-0 CAPLUS

CN Phosphine, (11aR)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



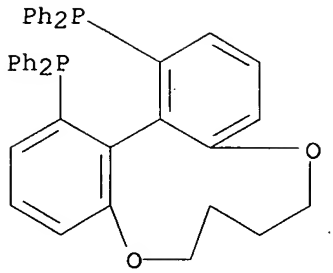
RN 301847-88-1 CAPLUS

CN Phosphine, [(12aR)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

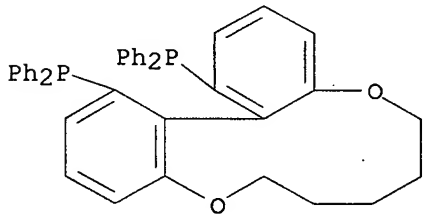


RN 301847-90-5 CAPLUS

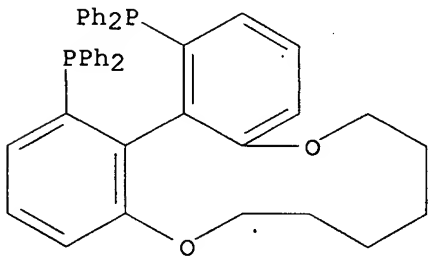
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 301847-91-6 CAPLUS
CN Phosphine, [(15aR)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundec
in-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



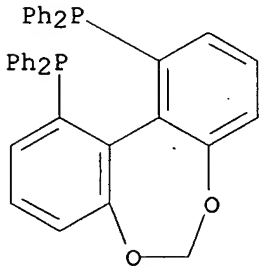
RN 301847-92-7 CAPLUS
CN Phosphine, [(16aR)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododec
in-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



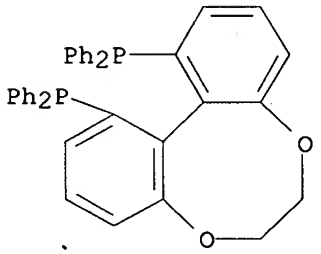
L3 ANSWER 11 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:587524 CAPLUS
DOCUMENT NUMBER: 145:248895
TITLE: Highly enantioselective hydrogenation of α-keto esters catalyzed by Ru-tunephos complexes
AUTHOR(S): Wang, Chun-Jiang; Sun, Xianfeng; Zhang, Xumu
CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State University, University Park, PA, 16802, USA
SOURCE: Synlett (2006), (8), 1169-1172
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:248895
AB Various enantiomerically pure α-hydroxy esters were synthesized by asym. hydrogenation of α-keto esters catalyzed by Ru-Cn-Tunephos complex. Up to 97.1% ee was achieved for both α-aryl and α-alkyl substituted α-keto esters.
IT 486429-92-9 486429-93-0 486429-94-1

486429-95-2 486429-96-3
RL: CAT (Catalyst use); USES (Uses)
(enantioselective hydrogenation of α-keto esters to α-hydroxy esters using Ru-tunephos catalysts)

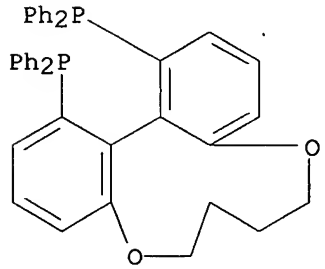
RN 486429-92-9 CAPLUS
CN Phosphine, (11aS)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



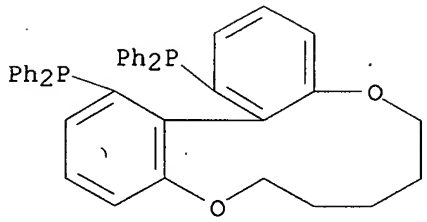
RN 486429-93-0 CAPLUS
CN Phosphine, [(12aS)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



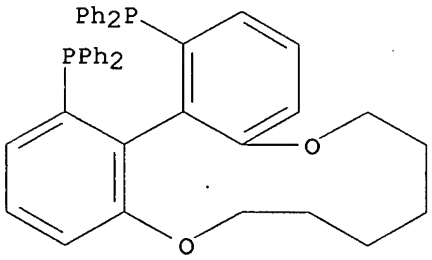
RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



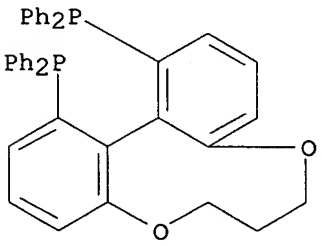
RN 486429-95-2 CAPLUS
CN Phosphine, [(15aS)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-96-3 CAPLUS
CN Phosphine, [(16aS)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



IT 486429-99-6
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(enantioselective hydrogenation of α-keto esters to α-hydroxy esters using Ru-tunephos catalysts)
RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:328224 CAPLUS
DOCUMENT NUMBER: 145:62371
TITLE: A new class of versatile chiral-bridged atropisomeric diphosphine ligands: remarkably efficient ligand syntheses and their applications in highly enantioselective hydrogenation reactions
AUTHOR(S): Qiu, Liqin; Kwong, Fuk Yee; Wu, Jing; Lam, Wai Har; Chan, Shusun; Yu, Wing-Yiu; Li, Yue-Ming; Guo, Rongwei; Zhou, Zhongyuan; Chan, Albert S. C.
CORPORATE SOURCE: Open Laboratory of Chirotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis

and Department of Applied Biology and Chemical Technology, Hong Kong Polytechnic University, Hong Kong, Hong Kong
SOURCE: Journal of the American Chemical Society (2006), 128(17), 5955-5965
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

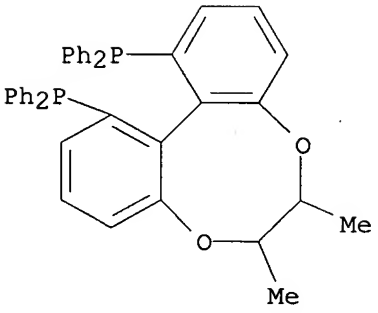
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A series of chiral diphosphine ligands denoted as PQ-Phos (I, II, and III; n = 0, 1, 2) was prepared by atropdiastereoselective Ullmann coupling and ring-closure reactions. The Ullmann coupling reaction of the biaryl diphosphine dioxides (IV; n = same as above) is featured by highly efficient central-to-axial chirality transfer with diastereomeric excess >99%. This substrate-directed diastereomeric biaryl coupling reaction is unprecedented for the preparation of chiral diphosphine dioxides, and our method precludes the tedious resolution procedures usually required for preparing enantiomerically pure diphosphine ligands. The effect of chiral recognition was also revealed in a relevant asym. ring-closure reaction of (S)- or (R)-HO-BIPHEPO (V) or (VI) with chiral alkanediol dimesylate or ditosylate (VII; R = Ms, n = 0; R = Ts, n = 1 or 2). The chiral tether bridging the two aryl units creates a conformationally rigid scaffold essential for enantiofacial differentiation; fine-tuning of the ligand scaffold (e.g., dihedral angles) can be achieved by varying the chain length of the chiral tether. The enantiomerically pure Ru- and Ir-PQ-Phos complexes have been prepared and applied to the catalytic enantioselective hydrogenations of α- and β-ketoesters (C:O bond reduction) of formula R1COCO2R2 (R1 = Me or Ph, R2 = Me; R1 = Me, iso-Pr, Ph, or PhCH2CH2) and R1COCHR2CO2R3 (R1 = Me, R2 = H, R3 = Me, Et, or CH2Ph; R1 = ClCH2 or Ph, R2 = H, R3 = Et; R1 = Ph, R2 = Cl, R3 = Et) to chiral α- or β-hydroxy esters of formula R1CH(OH)CO2R2 and R1CH(OH)CHR2CO2R3, 2-(6'-methoxy-2'-naphthyl)propenoic acid, alkyl-substituted β-dehydroamino acids (C:C bond reduction) of formula R2O2CCH:C(R1)NHAc (R1 = Me, Et, iso-Pr, or tert-Bu, R2 = me; R1 = Me or n-Pr, R2 = Et) to chiral β-amino acid esters of formula R2O2CCH2CHC(R1)NHAc, and N-heteroarom. compds. (C:N bond reduction) (VIII; R1 = Me, R2 = Me, H, MeO; R1 = Ph, R2 = H), (IX), and (X) to chiral heterocyclic compds. (XI), (XII), and (XIII). An excellent level of enantioselection (up to 99.9% ee) has been attained for the catalytic reactions. In addition, the significant ligand dihedral angle effects on the Ir-catalyzed asym. hydrogenation of N-heteroarom. compds. were also revealed.

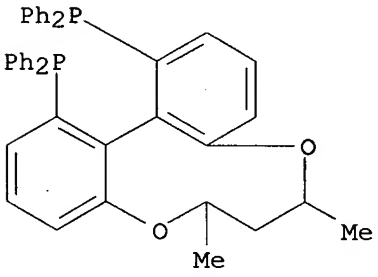
IT 713543-19-2P 827322-50-9P 827322-51-0P
890532-40-8P
RL: CAT (Catalyst use); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(dihedral angle; preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

RN 713543-19-2 CAPLUS

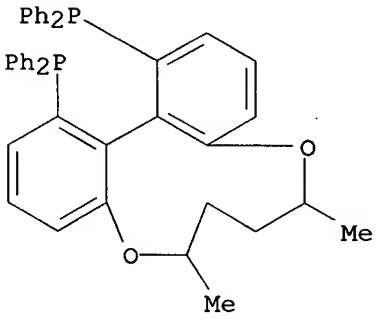
CN Phosphine, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



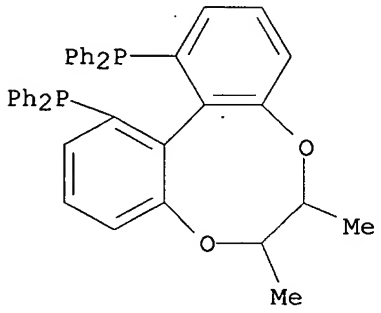
RN 827322-50-9 CAPLUS
CN Phosphine, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



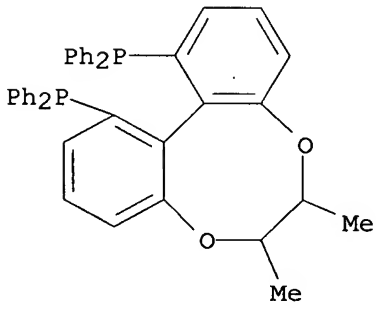
RN 827322-51-0 CAPLUS
CN Phosphine, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



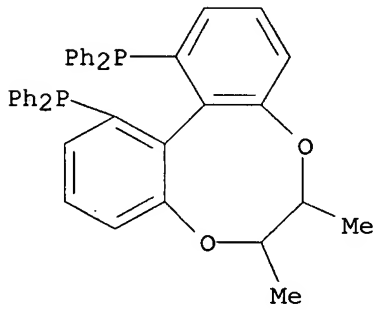
RN 890532-40-8 CAPLUS
CN Phosphine, [(6S,7S,12aS)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



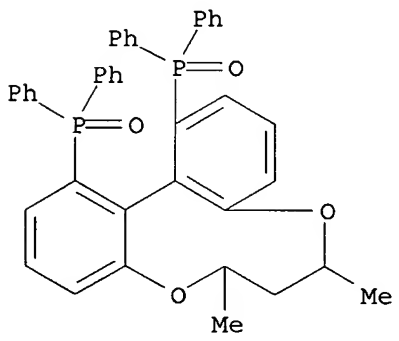
IT 890532-37-3P
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)
RN 890532-37-3 CAPLUS
CN Phosphine, [(6R,7R,12aS)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



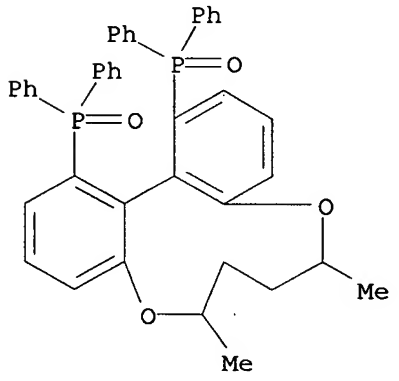
IT 713543-19-2DP, ruthenium complexes 827322-49-6DP, ruthenium complexes 827322-52-1DP, ruthenium complexes 890532-40-8DP, ruthenium complexes
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)
RN 713543-19-2 CAPLUS
CN Phosphine, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



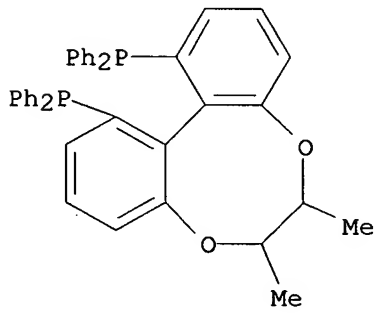
RN 827322-49-6 CAPLUS
CN Phosphine oxide, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 827322-52-1 CAPLUS
CN Phosphine oxide, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 890532-40-8 CAPLUS
CN Phosphine, [(6S,7S,12aS)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

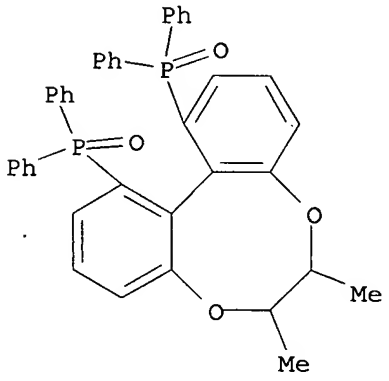


IT 713543-18-1P 827322-49-6P 827322-52-1P
890532-36-2P 890532-38-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

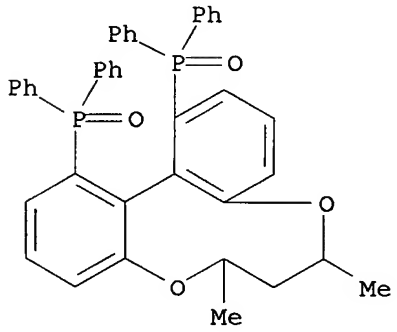
RN 713543-18-1 CAPLUS

CN Phosphine oxide, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



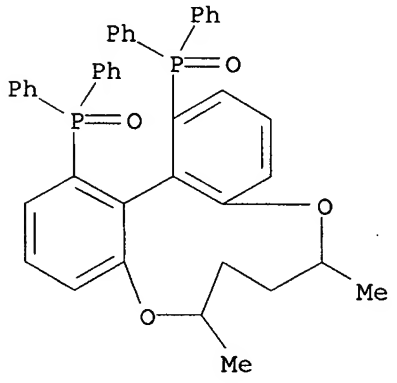
RN 827322-49-6 CAPLUS

CN Phosphine oxide, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

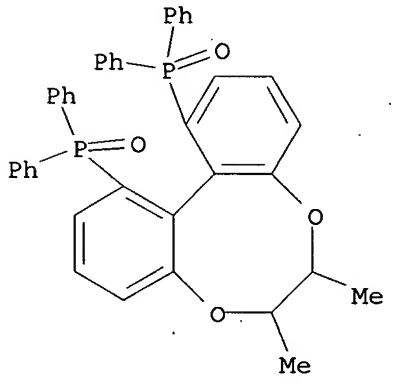


RN 827322-52-1 CAPLUS

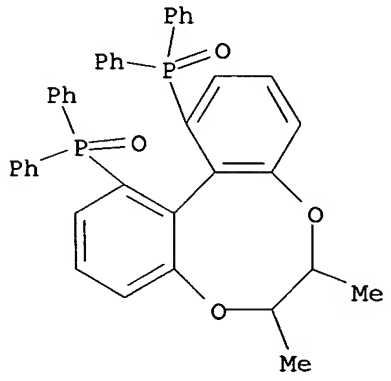
CN Phosphine oxide, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 890532-36-2 CAPLUS
CN Phosphine oxide, [(6R,7R,12aS)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 890532-38-4 CAPLUS
CN Phosphine oxide, [(6S,7S,12aS)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 130 THERE ARE 130 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

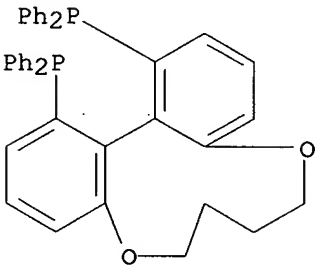
L3 ANSWER 13 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:277847 CAPLUS
DOCUMENT NUMBER: 146:295575
TITLE: Enabling ligand screening for palladium-catalyzed enantioselective aza-Michael addition reactions
AUTHOR(S): Phua, Pim Huat; White, Andrew J. P.; de Vries, Johannes G.; Hii, King Kuok
CORPORATE SOURCE: Department of Chemistry, Imperial College London, South Kensington, London, SW7 2AZ, UK
SOURCE: Advanced Synthesis & Catalysis (2006), 348(4 + 5), 587-592
CODEN: ASCAF7; ISSN: 1615-4150
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The bis(trifluoromethanesulfonate)palladium(II) dihydrate complex,

Pd(OTf)2·2 H2O (I), is an active palladium(II) precursor for the generation of dicationic palladium(II) catalysts. Parallel ligand screening is carried out for the first time and twenty-four chiral ligands were evaluated for the asym. aza-Michael addition of aromatic amines to (1-oxo-2-alkenyl)carbamic acid tert-Bu esters and N-[(2E)-1-oxo-2-alkenyl]benzamide derivs. Enantioselectivity of >99% can be obtained. Catalytic precursors generated from I using this new protocol have been identified.

IT 301847-90-5, (R)-C4-TunaPhos
RL: CAT (Catalyst use); USES (Uses)
(parallel ligand screening for stereoselective aza-Michael addition of aromatic amines to N-[(oxo)alkenyl]benzamide and N-(oxo)alkenyl]carbamate derivs. using in-situ-generated dicationic palladium(II) derivs. as catalysts)

RN 301847-90-5 CAPLUS

CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 14 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:208444 CAPLUS
DOCUMENT NUMBER: 144:450471
TITLE: Diastereospecific Intramolecular Ullmann Couplings: Unique Chiral Auxiliary for the Preparation of 3,3'-Disubstituted MeO-BIPHEP Derivatives
AUTHOR(S): Gorobets, E.; McDonald, R.; Keay, B. A.
CORPORATE SOURCE: Department of Chemistry, University of Calgary, Calgary, T2N 1N4, Can.
SOURCE: Organic Letters (2006), 8(7), 1483-1485
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:450471

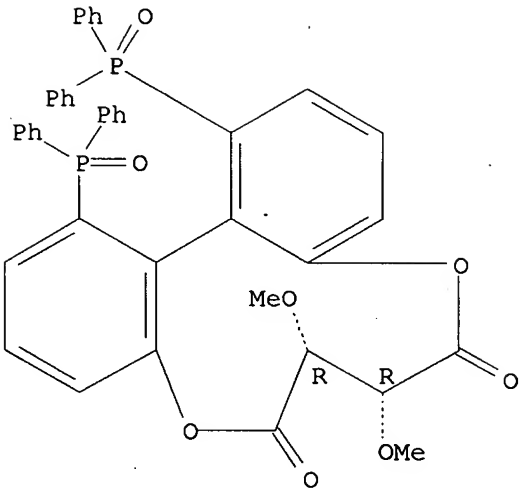
AB A chiral auxiliary is described that provides only one diastereomer during intramol. Ullmann couplings. Treatment of five Ullmann coupling precursors with Cu powder in DMF at 115 °C provides 2,2',3,3',6,6'-hexasubstituted 1,1'-biphenyls as single diastereomers in yields ranging from 66% to 91%.

IT 885722-57-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of 3,3'-disubstituted MeO-BIPHEP derivs. by diastereospecific intramol. Ullmann couplings using a unique chiral auxiliary)

RN 885722-57-6 CAPLUS

CN Dibenzo[b,d][1,6]dioxecin-6,9-dione, 1,14-bis(diphenylphosphinyl)-7,8-dihydro-7,8-dimethoxy-, (7R,8R)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 15 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1346101 CAPLUS
DOCUMENT NUMBER: 144:94331
TITLE: Novel stable compositions of water and oxygen sensitive compounds and their method of preparation
INVENTOR(S): Taber, Douglass F.; Li, Hui-Yin
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

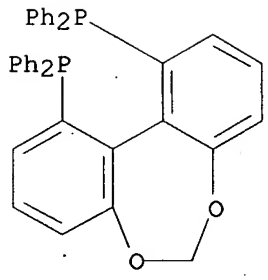
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005288257	A1	20051229	US 2005-166937	20050623
PRIORITY APPLN. INFO.:			US 2004-583054P P	20040625

OTHER SOURCE(S): MARPAT 144:94331

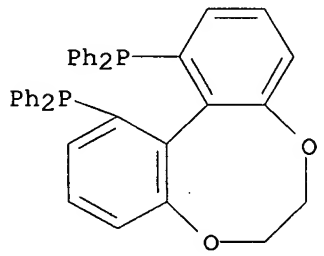
AB The present application described a new formulation for oxygen and/or water sensitive compds. with an inert material such as paraffin. The new formulation provides stability for the oxygen and/or water sensitive compds. in the air and can be handled easily. The new formulation of the present invention is useful as ligands and/or catalysts for preparation of pharmaceuticals, agrochem., other fine chems. and other synthetic compds.

IT 301847-87-0 301847-88-1 301847-89-2
301847-90-5 301847-91-6 301847-92-7
486429-92-9 486429-93-0 486429-94-1
486429-95-2 486429-96-3 486429-99-6
RL: TEM (Technical or engineered material use); USES (Uses)
(novel stable compns. of water and oxygen sensitive compds. and their method of preparation)

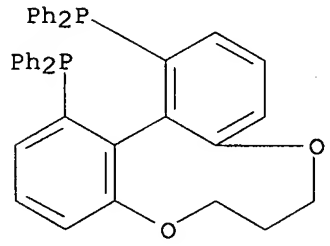
RN 301847-87-0 CAPLUS
CN Phosphine, (11aR)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



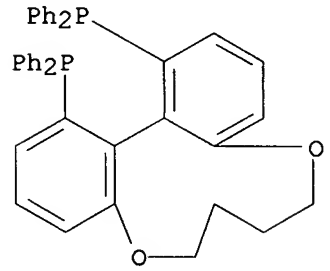
RN 301847-88-1 CAPLUS
CN Phosphine, [(12aR)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



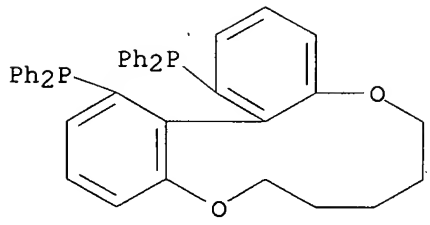
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



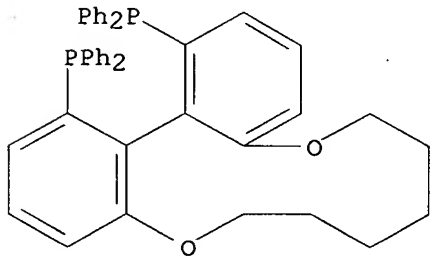
RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



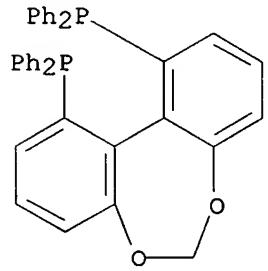
RN 301847-91-6 CAPLUS
CN Phosphine, [(15aR)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



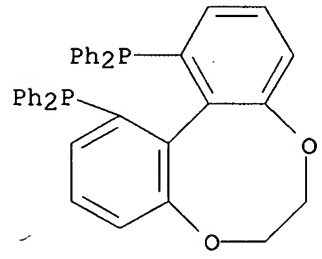
RN 301847-92-7 CAPLUS
CN Phosphine, [(16aR)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododec in-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



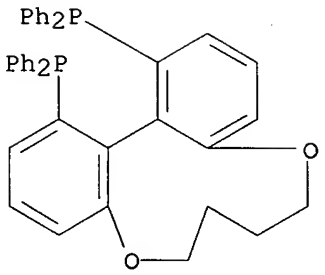
RN 486429-92-9 CAPLUS
CN Phosphine, (11aS)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



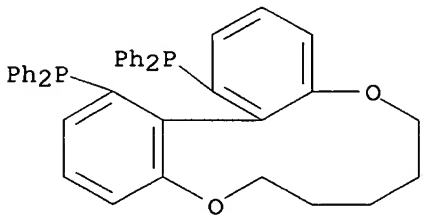
RN 486429-93-0 CAPLUS
CN Phosphine, [(12aS)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



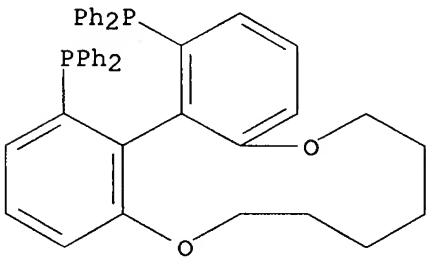
RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



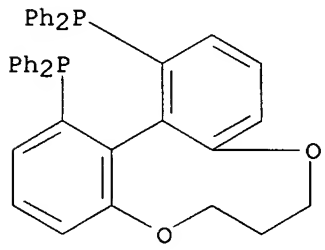
RN 486429-95-2 CAPLUS
CN Phosphine, [(15aS)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-96-3 CAPLUS
CN Phosphine, [(16aS)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



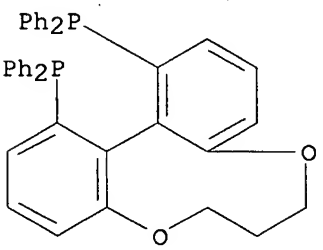
L3 ANSWER 16 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1341939 CAPLUS

DOCUMENT NUMBER: 144:212609
TITLE: Highly enantioselective hydrogenation of N-phthaloyl enamides
AUTHOR(S): Yang, Qin; Gao, Wenzhong; Deng, Jingen; Zhang, Xumu
CORPORATE SOURCE: Key Laboratory of Asymmetric Synthesis and Chirotechnology of Sichuan Province and Union Laboratory of Asymmetric Synthesis, Chendu Institute of Organic Chemistry, Chinese Academy of Sciences, Chengdu, 610041, Peop. Rep. China
SOURCE: Tetrahedron Letters (2006), 47(5), 821-823
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:212609

AB Rh- or Ru-catalyzed highly enantioselective hydrogenation of N-phthaloyl enamides is presented. Electron-rich TangPhos and DuanPhos are found to be effective ligands for Rh-catalyzed hydrogenation of α-aryl enamides and <99% ee was achieved. In contrast, for the hydrogenation of α-alkyl enamide, the Ru-C3-TunePhos complex is more effective and <69% ee can be observed

IT 486429-99-6D, Ruthenium complexes
RL: CAT (Catalyst use); USES (Uses)
(enantioselective hydrogenation of N-phthaloyl enamides with rhodium or ruthenium catalyst)

RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

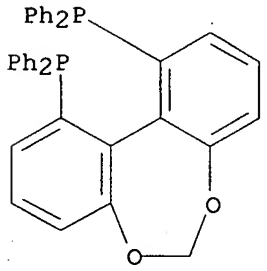
L3 ANSWER 17 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1144452 CAPLUS
DOCUMENT NUMBER: 143:421937
TITLE: A correlation study of bisphosphine ligand bite angles with enantioselectivity in Pd-catalyzed asymmetric transformations
AUTHOR(S): Raghunath, Malati; Zhang, Xumu
CORPORATE SOURCE: Department of Chemistry, Pennsylvania State University, University Park, PA, 16802, USA
SOURCE: Tetrahedron Letters (2005), 46(47), 8213-8216
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:421937

AB Among the bisphosphine ligands, we have previously developed Cn-TunePhos (n = 1-6) as a family of ligands with tunable bite angles. The increase in spacer-CH2- groups in this family of ligands causes changes in ligand dihedral angle, which in turn causes P-Pd-P bite angle variation.

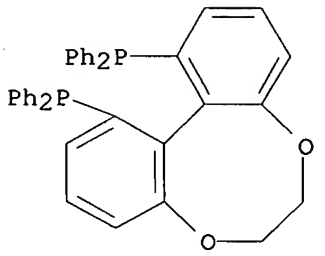
Pd-catalyzed asym. alkylations and cycloaddns. have been tested with Cn-TunePhos ligands. This study aims at a possible correlation between ligand bite angles with enantioselectivity of the Pd-catalyzed asym. products.

IT 301847-87-0 301847-88-1 301847-89-2
301847-90-5 301847-91-6 301847-92-7
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(correlation study of bisphosphine ligand bite angles with enantioselectivity in Pd-catalyzed asym. allylic alkylation and cycloaddn.)

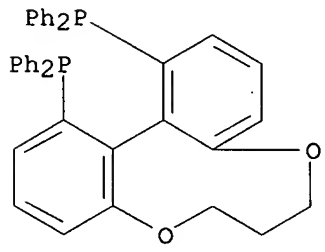
RN 301847-87-0 CAPLUS
CN Phosphine, (11aR)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



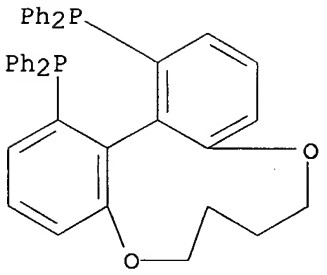
RN 301847-88-1 CAPLUS
CN Phosphine, [(12aR)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



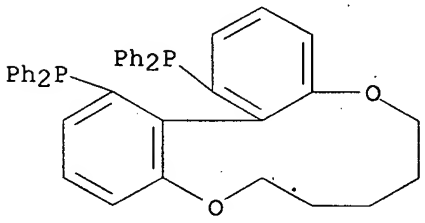
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



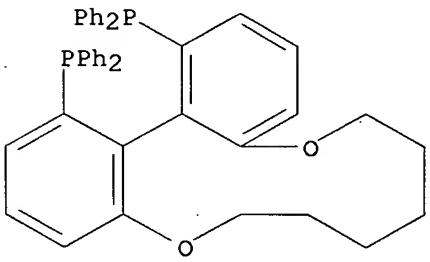
RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 301847-91-6 CAPLUS
CN Phosphine, [(15aR)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundec in-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 301847-92-7 CAPLUS
CN Phosphine, [(16aR)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododec in-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

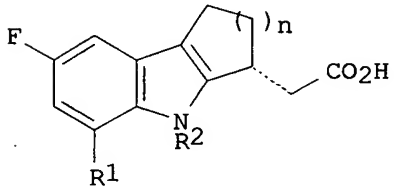


REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

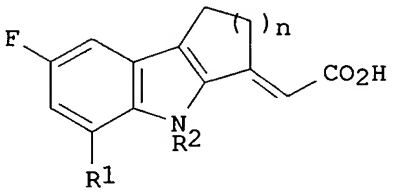
L3 ANSWER 18 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1078324 CAPLUS
DOCUMENT NUMBER: 143:367208
TITLE: Asymmetric hydrogenation process for preparation of chiral cycloalkanoindoleacetates using ruthenium or rhodium complexes with chiral phosphines.
INVENTOR(S): Tellers, David M.; Humphrey, Guy R.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 2005222428 A1 20051006 US 2005-97565 20050401
AU 2005230897 A1 20051020 AU 2005-230897 20050329
CA 2561632 A1 20051020 CA 2005-2561632 20050329
WO 2005097745 A1 20051020 WO 2005-US10501 20050329
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1737820 A1 20070103 EP 2005-732832 20050329
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, HR, LV
CN 1942440 A 20070404 CN 2005-80010846 20050329
BR 2005009384 A 20070918 BR 2005-9384 20050329
IN 2006CN03526 A 20070615 IN 2006-CN3526 20060925
PRIORITY APPLN. INFO.: US 2004-558972P P 20040402
WO 2005-US10501 W 20050329
OTHER SOURCE(S): CASREACT 143:367208; MARPAT 143:367208
GI



I



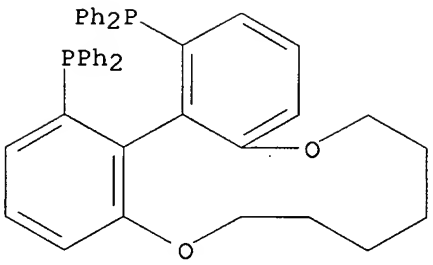
II

AB Title compds. (I; n = 1, 2; R1 = Br, SO2Me; R2 = H, PhCH2, 4-nitrobenzyl, 4-aminobenzyl, 4-trifluoromethylbenzyl, 4-chlorobenzyl), were prepared via hydrogenation of α,β-unsatd. acids (II; variables as above) at 0-500 psig H2 in the presence of a Ru-axially chiral phosphine ligand complex, or a Rh ferrocenylphosphine ligand complex, or a Rh TMBTP complex. Preparation of I (n = 1; R1 = SO2Me; R2 = 4-chlorobenzyl) was claimed.

IT 486429-96-3
RL: CAT (Catalyst use); USES (Uses)
(asym. hydrogenation process for preparation of chiral cycloalkanoindoleacetates using ruthenium or rhodium complexes with chiral phosphines)

RN 486429-96-3 CAPLUS

CN Phosphine, [(16aS)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



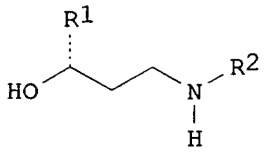
L3 ANSWER 19 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:962239 CAPLUS
DOCUMENT NUMBER: 143:266590
TITLE: Process for the preparation of enantiomerically pure 1-substituted-3-aminoalcohols
INVENTOR(S): Michel, Dominique; Mettler, Hanspeter; McGarrity, John
PATENT ASSIGNEE(S): Lonza A.-G., Switz.
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005080370	A1	20050901	WO 2005-EP1781	20050221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1566383	A1	20050824	EP 2004-3809	20040219
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
AU 2005215906	A1	20050901	AU 2005-215906	20050221
CA 2556891	A1	20050901	CA 2005-2556891	20050221
EP 1720852	A1	20061115	EP 2005-715425	20050221
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 1922168	A	20070228	CN 2005-80005452	20050221
BR 2005006796	A	20070522	BR 2005-6796	20050221
JP 2007523124	T	20070816	JP 2006-553562	20050221
IN 2006DN04971	A	20070817	IN 2006-DN4971	20060829
NO 2006004017	A	20060915	NO 2006-4017	20060906
KR 2007009587	A	20070118	KR 2006-718840	20060914

PRIORITY APPLN. INFO.:

EP 2004-3809	A	20040219
EP 2004-10043	A	20040428
WO 2005-EP1781	W	20050221

OTHER SOURCE(S): MARPAT 143:266590
GI



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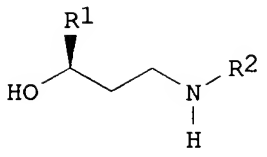
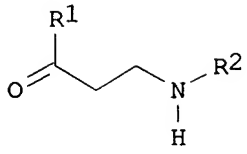
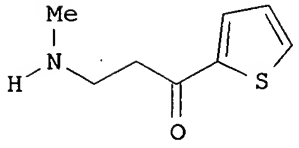


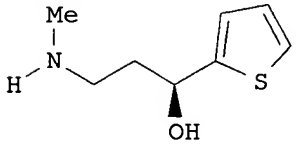
II



III



IV



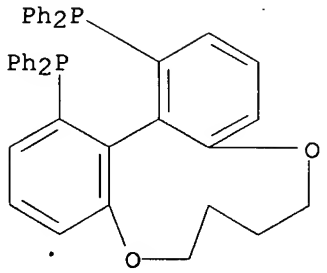
V

AB A process for the preparation of enantiomerically pure 1-substituted-3-aminoalcs. of formula I [wherein R1 = (un)substituted 2-thienyl, (un)substituted 2-furanyl, or (un)substituted phenyl; R2 = (un)substituted C1-4 alkyl or (un)substituted phenyl] and formula II [wherein R1 = (un)substituted 2-thienyl, (un)substituted 2-furanyl, or (un)substituted phenyl; R2 = (un)substituted C1-4 alkyl or (un)substituted phenyl], by asym. hydrogenating an aminoketone or salts of a carboxylic acid and an aminoketone of formula III [wherein R1 = (un)substituted 2-thienyl, (un)substituted 2-furanyl, or (un)substituted phenyl; R2 = (un)substituted C1-4 alkyl or (un)substituted phenyl], and wherein the corresponding aminoalcs. are obtained by subsequent hydrolysis of their salts. Thus, a mixture of 2-acetylthiophene, methylamine hydrochloride, and paraformaldehyde were heated to 120-130 °C for nine hours in ethanol and precipitated to provide 3-N-methylamino-1-(2-thienyl)-1 propanone hydrochloride (PRON-HCl, IV·HCl) which was subsequently stereoselectively reduced in the presence of a transition metal complex of a diphosphine ligand to provide (S)-(-)-3-N-methylamino-1-(2-thienyl)-1-propanol ((S)-PROL-HCl, V). Furthermore provided are salts of carboxylic acids with said aminoketones and the aminoalcs. obtained by asym. hydrogenating said aminoketones, resp.

IT 486429-94-1
RL: CAT (Catalyst use); USES (Uses)
(process for the preparation of enantiomerically pure 1-substituted-3-aminoalcs.)

RN 486429-94-1 CAPLUS

CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



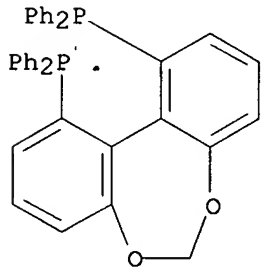
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 20 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:954496 CAPLUS
DOCUMENT NUMBER: 143:386670
TITLE: Enantioselective hydrogenation of allylphthalimides: An efficient method for the synthesis of β-methyl chiral amines
AUTHOR(S): Wang, Chun-Jiang; Sun, Xianfeng; Zhang, Xumu
CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State University, University Park, PA, 16802, USA
SOURCE: Angewandte Chemie, International Edition (2005), 44(31), 4933-4935
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:386670

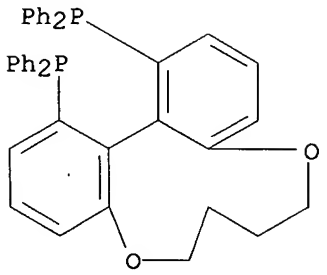
AB High yields and up to 98% ee have been achieved by asym. hydrogenation of allylphthalimides followed by hydrolysis to give β-Me chiral amines by using a Ru-C3-tunephos catalyst. The synthetic utility of this procedure was demonstrated through the synthesis of the key intermediate of the LTs receptor antagonist (Zeneca ZD 3532).

IT 486429-92-9 486429-94-1 486429-95-2
486429-96-3 486429-99-6 866611-48-5
RL: CAT (Catalyst use); USES (Uses)
(preparation of chiral β-Me amines via Ru-C3-tunephos catalyzed enantioselective hydrogenation and hydrolysis of allylphthalimides)

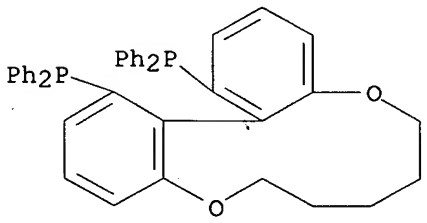
RN 486429-92-9 CAPLUS
CN Phosphine, (11aS)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



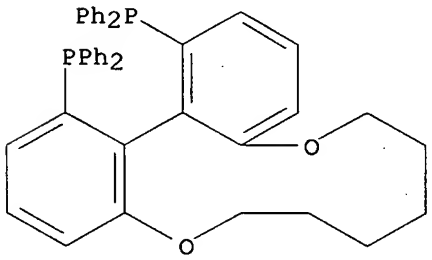
RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



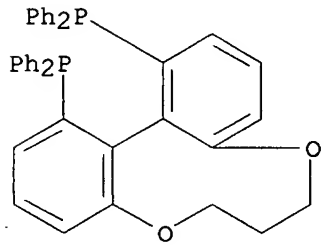
RN 486429-95-2 CAPLUS
CN Phosphine, [(15aS)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



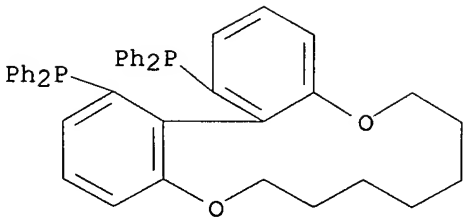
RN 486429-96-3 CAPLUS
CN Phosphine, [(16aS)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 866611-48-5 CAPLUS
CN Phosphine, [(17aS)-7,8,9,10,11,12-hexahydro-6H-dibenzo[b,d][1,6]dioxacyclotridecin-1,17-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 21 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:901934 CAPLUS
DOCUMENT NUMBER: 143:248273
TITLE: Preparation of enantiomerically pure 1-substituted-3-amino alcohols
INVENTOR(S): Michel, Dominique
PATENT ASSIGNEE(S): Lonza A.-G., Switz.
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1566383	A1	20050824	EP 2004-3809	20040219
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
AU 2005215906	A1	20050901	AU 2005-215906	20050221
CA 2556891	A1	20050901	CA 2005-2556891	20050221
WO 2005080370	A1	20050901	WO 2005-EP1781	20050221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1720852	A1	20061115	EP 2005-715425	20050221
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 1922168	A	20070228	CN 2005-80005452	20050221
BR 2005006796	A	20070522	BR 2005-6796	20050221
JP 2007523124	T	20070816	JP 2006-553562	20050221
SG 135196	A1	20070928	SG 2007-6103	20050221
IN 2006DN04971	A	20070817	IN 2006-DN4971	20060829
NO 2006004017	A	20060915	NO 2006-4017	20060906
KR 2007009587	A	20070118	KR 2006-718840	20060914

PRIORITY APPLN. INFO.:

EP 2004-3809	A	20040219
EP 2004-10043	A	20040428
WO 2005-EP1781	W	20050221

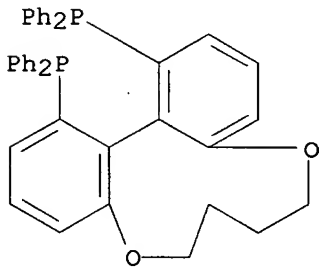
OTHER SOURCE(S): CASREACT 143:248273; MARPAT 143:248273
AB Provided is a process for the preparation of enantiomerically pure

1-substituted-3-amino alcs. (R)- or (S)-HOCH(R1)CH2CH2NHR2 (R1 = 2-thienyl, 2-furanyl, Ph, substituted 2-thienyl, substituted 2-furanyl, substituted Ph; R2 = C1-C4-alkyl, Ph, substituted C1-C4-alkyl, substituted Ph), particularly (S)-(-)- and (R)-(+)-3-N-methylamino-1-(2-thienyl)-1-propanol, by asym. hydrogenating salts of R1COCH2CH2NHR2 using Rh and an asym. ligand.

IT 486429-94-1
RL: RGT (Reagent); RACT (Reactant or reagent)
(asym. synthesis of 1-substituted -3-amino alcs. via hydrogenation of amino ketones)

RN 486429-94-1 CAPLUS

CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 22 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:181066 CAPLUS
DOCUMENT NUMBER: 142:280046
TITLE: Process for the asymmetric hydrogenation of β-amino ketones using transition metal complexes of chiral bidentate phosphines as catalysts.
PATENT ASSIGNEE(S): Lonza AG, Switz.
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

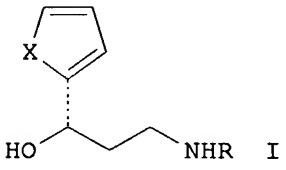
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1510517	A1	20050302	EP 2003-77734	20030901
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
AU 2004268057	A1	20050310	AU 2004-268057	20040831
WO 2005021527	A2	20050310	WO 2004-EP9690	20040831
WO 2005021527	A3	20050714		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1664014	A2	20060607	EP 2004-764655	20040831

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK

CN 1842523	A	20061004	CN 2004-80024598		20040831
JP 2007504192	T	20070301	JP 2006-525092		20040831
NO 2006000763	A	20060317	NO 2006-763		20060217
US 2006252945	A1	20061109	US 2006-569824		20060228
IN 2006CN00724	A	20070629	IN 2006-CN724		20060228
PRIORITY APPLN. INFO.:			EP 2003-77734	A	20030901
			WO 2004-EP9690	W	20040831

OTHER SOURCE(S): CASREACT 142:280046; MARPAT 142:280046

GI



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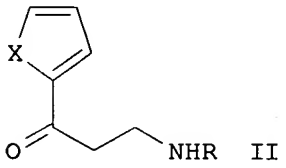


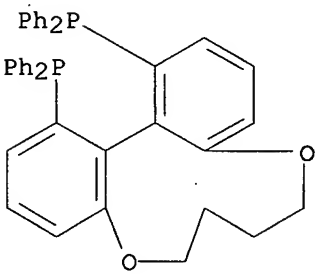
II

AB A process for the preparation of enantiomerically enriched or enantiomerically pure β-amino alcs. [I; X = S, O; R = (substituted) alkyl, cycloalkyl, aryl, aralkyl] comprises asym. hydrogenation of ketones (II; variables as above) using transition metal complexes of chiral bidentate phosphines as catalysts. Thus, 3-methylamino-1-(thien-2-yl)propan-1-one hydrochloride (preparation given), NaOMe, (S,S)-Me-DuPhos, and [Rh(COD)2]BF4 were autoclaved together in MeOH at 30-34° and 30 bar H2 for 5 h to give 67% (S)-3-methylamino-1-(2-thienyl)-1-propanol in >99% enantiomeric excess.

IT 486429-94-1
RL: CAT (Catalyst use); USES (Uses)
(asym. hydrogenation of aminoketones using transition metal complexes of chiral bidentate phosphines as catalysts)

RN 486429-94-1 CAPLUS

CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

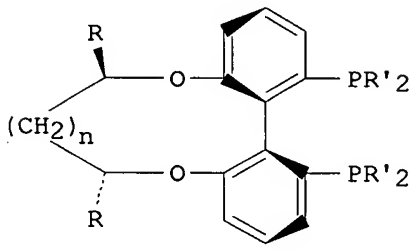
L3 ANSWER 23 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:	2005:58129 CAPLUS
DOCUMENT NUMBER:	142:137081
TITLE:	Preparation of biphenyldiphosphine compounds useful in asymmetric reactions
INVENTOR(S):	Chan, Albert Sun-chi; Qiu, Liqin
PATENT ASSIGNEE(S):	The Hong Kong Polytechnic University, Hong Kong
SOURCE:	U.S. Pat. Appl. Publ., 18 pp. CODEN: USXXCO
DOCUMENT TYPE:	Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005014633	A1	20050120	US 2004-888820	20040709
US 7094725	B2	20060822		

PRIORITY APPLN. INFO.: US 2003-486496P P 20030711
OTHER SOURCE(S): MARPAT 142:137081
GI

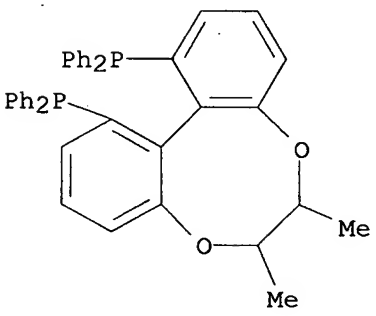


I

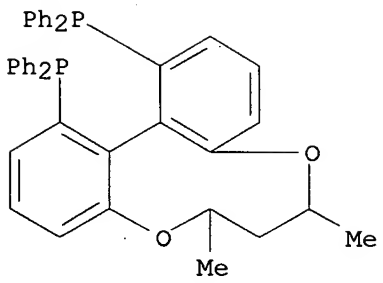
AB The present invention provides compds. of the formula I wherein R = optionally substituted lower alkyl, cycloalkyl or aryl; R' = alkyl or aryl; n = 0, 1, or 2; or an enantiomer thereof; or an enantiomeric mixture thereof. The compds. of formula I are bridged C2-sym. biphenyldiphosphine analogs and, thus, may be employed as ligands to generate chiral transition metal catalysts which may be applied in a variety of asym. reactions. The compds. of the present invention are easily accessible in high diastereomeric and optical purity according to the methods disclosed herein.

IT 713543-19-2P 827322-50-9P 827322-51-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(ligand; preparation of biphenyldiphosphine compds. useful in asym. reactions)

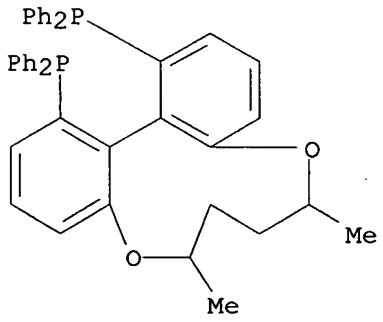
RN 713543-19-2 CAPLUS
CN Phosphine, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



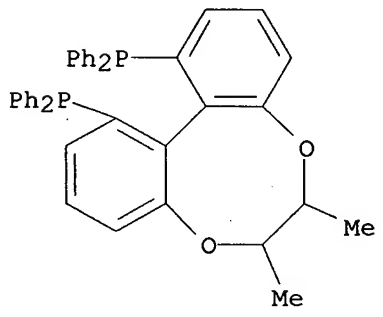
RN 827322-50-9 CAPLUS
CN Phosphine, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



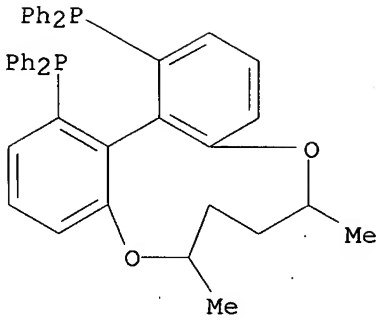
RN 827322-51-0 CAPLUS
CN Phosphine, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



IT 713543-19-2DP, ruthenium complex 827322-51-0DP, ruthenium complex
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(preparation of biphenyldiphosphine compds. useful in asym. reactions)
RN 713543-19-2 CAPLUS
CN Phosphine, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

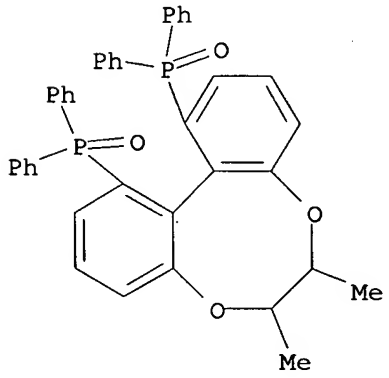


RN 827322-51-0 CAPLUS
CN Phosphine, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

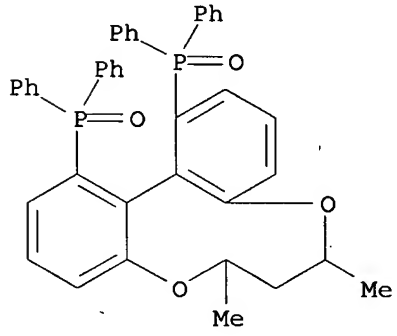


IT 713543-18-1P 827322-49-6P 827322-50-9DP,
ruthenium complex 827322-52-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of biphenyldiphosphine compds. useful in asym. reactions)

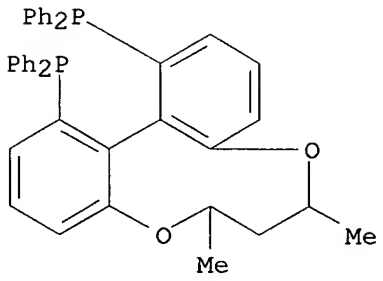
RN 713543-18-1 CAPLUS
CN Phosphine oxide, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



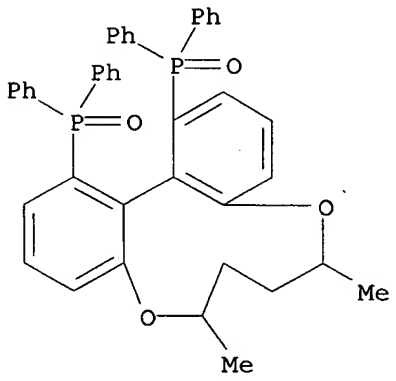
RN 827322-49-6 CAPLUS
CN Phosphine oxide, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 827322-50-9 CAPLUS
CN Phosphine, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 827322-52-1 CAPLUS
CN Phosphine oxide, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

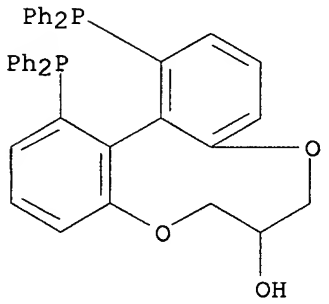


L3 ANSWER 24 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:626153 CAPLUS
DOCUMENT NUMBER: 141:313978
TITLE: Novel silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation
AUTHOR(S): Steiner, Ivo; Aufdenblatten, Rhony; Togni, Antonio; Blaser, Hans-Ulrich; Pugin, Benoit
CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Honggerberg, Swiss Federal Institute of Technology, Zurich, CH-8093, Switz.
SOURCE: Tetrahedron: Asymmetry (2004), 15(14), 2307-2311
CODEN: TASYE3; ISSN: 0957-4166
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:313978
AB The synthesis of functionalized Biphemp and MeO-Biphep biaryl diphosphine ligands and their covalent attachment to silica gel are described. The catalytic performance of the immobilized ligands was tested in the asym. hydrogenation of Me acetamidocinnamate with Rh and of Me phenylglyoxylate with Ru and compared with that of the homogeneous analogs. With the exception of a Rh catalyzed hydrogenation, where an increase of ee from 29% for the unfunctionalized ligand, to 40% for the functionalized ligand and 45% for the immobilized ligand was observed, functionalization and immobilization did not significantly affect the catalytic properties. The best ees of 90% were obtained for the Ru catalyzed hydrogenation of Me phenylglyoxylate with the immobilized MeO-Biphep ligand and are comparable with those of the homogeneous catalyst. Recycling of the immobilized

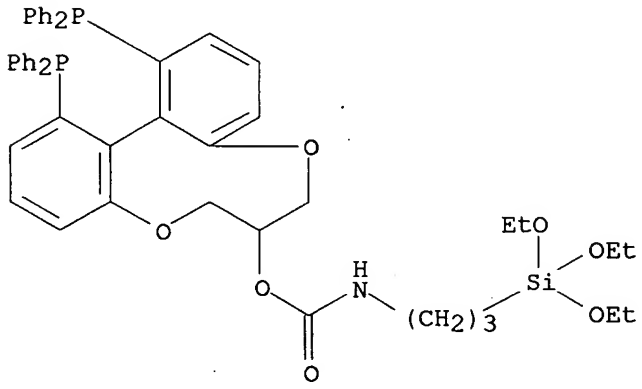
catalysts resulted in a significant drop in activity for the Rh catalysts, whereas the Ru catalysts were much more robust and could be used in >10 catalytic runs.

IT 270253-35-5P 270253-37-7P
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation)

RN 270253-35-5 CAPLUS
CN 6H-Dibenzo[f,h][1,5]dioxonin-7-ol, 1,13-bis(diphenylphosphino)-7,8-dihydro-, (13aR)- (9CI) (CA INDEX NAME)

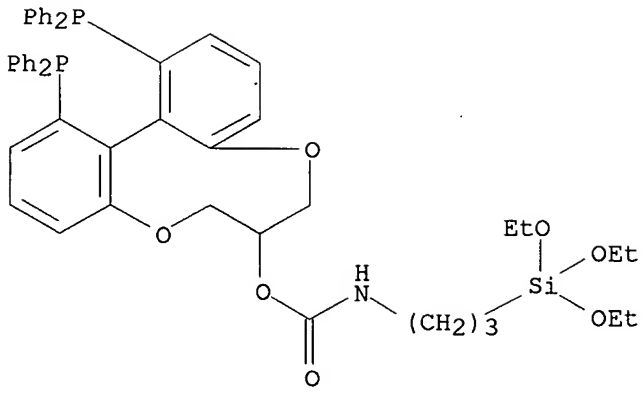


RN 270253-37-7 CAPLUS
CN Carbamic acid, [3-(triethoxysilyl)propyl]-, (13aR)-1,13-bis(diphenylphosphino)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-7-yl ester (9CI) (CA INDEX NAME)

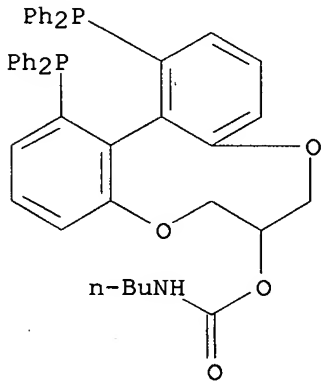


IT 270253-37-7DP, silica gel-supported 766546-49-0P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation)

RN 270253-37-7 CAPLUS
CN Carbamic acid, [3-(triethoxysilyl)propyl]-, (13aR)-1,13-bis(diphenylphosphino)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-7-yl ester (9CI) (CA INDEX NAME)



RN 766546-49-0 CAPLUS
CN Carbamic acid, butyl-, (13aR)-1,13-bis(diphenylphosphino)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-7-yl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 25 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:570037 CAPLUS
DOCUMENT NUMBER: 141:123759
TITLE: Catalytic asymmetric reductive amination of ketones via transition metal complex catalysts with chiral phosphine ligands
INVENTOR(S): Zhang, Xumu
PATENT ASSIGNEE(S): Penn State Research Foundation, USA
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004058982	A2	20040715	WO 2003-US34955	20031105
WO 2004058982	A3	20041229		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,

TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003294243	A1	20040722	AU 2003-294243		20031105
US 2004147762	A1	20040729	US 2003-701081		20031105
PRIORITY APPLN. INFO.:			US 2002-424663P	P	20021106
			WO 2003-US34955	W	20031105

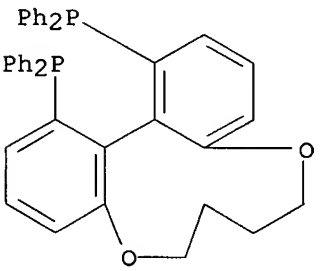
OTHER SOURCE(S): CASREACT 141:123759
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Processes for the preparation of compds., e. g. I, having a chiral carbon substituted with an amine are disclosed. The processes include admixing a ketone, e. g. II, with an amine, e. g. III in the presence of a catalyst having a chiral phosphine ligand, e. g. IV, and an acid. The admixt. can also contain a reducing additive. The admixt. is then exposed to hydrogen to directly and asym. aminate the ketone.

IT 301847-90-5
RL: CAT (Catalyst use); USES (Uses)
(catalytic asym. reductive amination of ketones via transition metal complex catalysts with chiral phosphine ligands)

RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 26 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:	2004:356395 CAPLUS
DOCUMENT NUMBER:	141:88901
TITLE:	Remarkably diastereoselective synthesis of a chiral biphenyl diphosphine ligand and its application in asymmetric hydrogenation
AUTHOR(S):	Qiu, Liqin; Wu, Jing; Chan, Shusun; Au-Yeung, Terry T.-L.; Ji, Jian-Xin; Guo, Rongwei; Pai, Cheng-Chao; Zhou, Zhongyuan; Li, Xingshu; Fan, Qing-Hua; Chan, Albert S. C.
CORPORATE SOURCE:	Open Laboratory of Chirotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis and Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Kowloon, Hong Kong
SOURCE:	Proceedings of the National Academy of Sciences of the United States of America (2004), 101(16), 5815-5820 CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER:	National Academy of Sciences

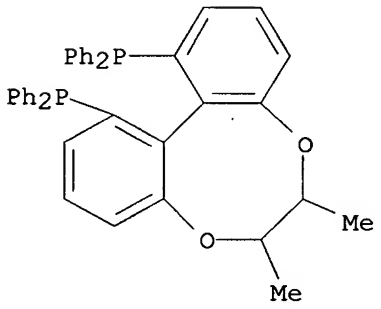
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:88901

AB Essentially complete atropdiastereoselectivity was realized in the preparation of biaryl diphosphine dioxide by asym. intramol. Ullmann coupling and oxidative coupling with central-to-axial chirality transfer. A bridged C2-sym. biphenylphosphine ligand possessing addnl. chiral centers on the linking unit of the biphenyl groups was synthesized. No resolution step was required for the preparation of the enantiomerically pure chiral ligand. These findings offer a general and practical tool for the development of previously uninvestigated atropdiastereomeric biaryl phosphine ligands. The diphosphine ligand was highly effective in the asym. hydrogenation of α- and β-keto esters, 2-(6'-methoxy-2'-naphthyl)propenoic acid, β-(acylamino)acrylates, and enol acetates.

IT 713543-19-2D, ruthenium-dimethylformamide complexes
RL: CAT (Catalyst use); USES (Uses)
(stereoselective synthesis of a chiral biphenyl diphosphine ligand for asym. hydrogenation)

RN 713543-19-2 CAPLUS

CN Phosphine, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

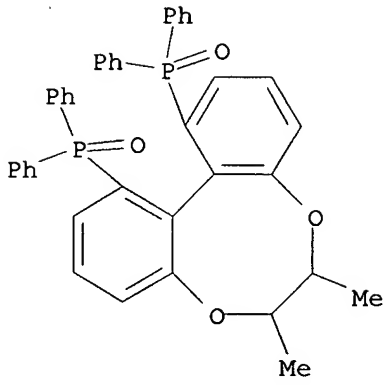


RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(stereoselective synthesis of a chiral biphenyl diphosphine ligand for asym. hydrogenation

IT 713543-18-1P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stereoselective synthesis of a chiral biphenyl diphosphine ligand for asym. hydrogenation)

RN 713543-18-1 CAPLUS

CN Phosphine oxide, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

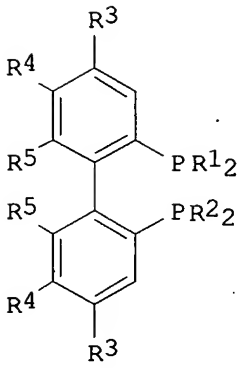


REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 27 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:757681 CAPLUS
DOCUMENT NUMBER: 139:261176
TITLE: Process for asymmetric hydrogenation of hexahydroquinoline salts
INVENTOR(S): Puentener, Kurt; Scalone, Michelangelo; Wang, Shaoning
PATENT ASSIGNEE(S): Roche Vitamins A.-G., Switz.
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003078399	A1	20030925	WO 2003-EP2610	20030313
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2478275	A1	20030925	CA 2003-2478275	20030313
AU 2003227057	A1	20030929	AU 2003-227057	20030313
EP 1485357	A1	20041215	EP 2003-744359	20030313
EP 1485357	B1	20050706		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1639127	A	20050713	CN 2003-804515	20030313
AT 299136	T	20050715	AT 2003-744359	20030313
JP 2005527527	T	20050915	JP 2003-576405	20030313
US 2005148776	A1	20050707	US 2004-507940	20040915
PRIORITY APPLN. INFO.:			EP 2002-6124 A	20020319
			WO 2003-EP2610 W	20030313

OTHER SOURCE(S): CASREACT 139:261176; MARPAT 139:261176
GI



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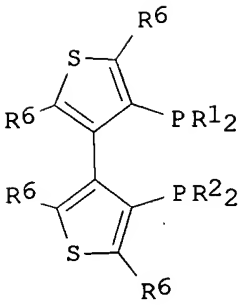


II

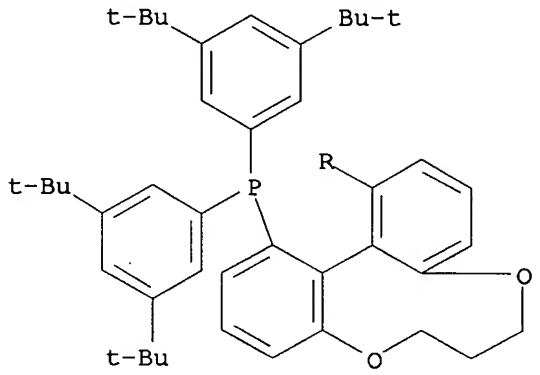
AB The asym. hydrogenation of 1-(4-methoxybenzyl)-3,4,5,6,7,8-hexahydroisoquinolinium salts to yield (S) or (R)-1-(4-methoxybenzyl)-1,2,3,4,5,6,7,8-hexahydroisoquinolinium salts can be effected with superior optical yield by the use of an iridium or rhodium complex catalyst comprising a chiral diphosphine ligands, I and II (R1, R2 = Ph substituted C1-8 alkyl, C1-8 alkoxy, di(C1-8 alkyl)amino, morpholino, Ph, tri-C1-8-alkylsilyl, etc.; R3, R4 = H, C1-8 alkyl, C1-8 alkoxy, C1-8 dialkylamino, etc.; R5 = C1-8 alkyl, C1-8 alkoxy, OH, C1-8 alkyl-C(O)O, etc.; R6 = C1-8 alkyl, etc.), (S)-1-(4-methoxybenzyl)-1,2,3,4,5,6,7,8-hexahydroisoquinoline and salts thereof are intermediate products in the manufacture of dextromethorphan, a known antitussive agent. Thus, reaction of [Ir(COD)Cl]2 with (S)-3,5-tBu-MeOBIPHEP in MeOH at room temperature gave the catalyst which was used as asym. hydrogenation catalyst for 1-(4-methoxybenzyl)-3,4,5,6,7,8-hexahydroisoquinoline hydrogen sulfate.

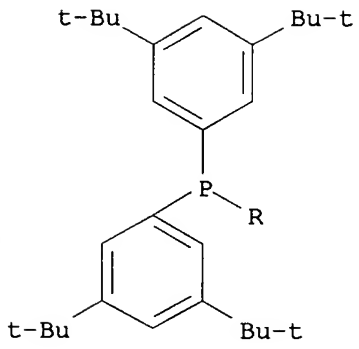
IT 603958-27-6
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(chiral diphosphine rhodium or iridium complex catalyzed process for asym. hydrogenation of hexahydroquinoline salts)

RN 603958-27-6 CAPLUS

CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A





REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 28 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:757296 CAPLUS
DOCUMENT NUMBER: 139:276809
TITLE: Process for preparing nonracemic chiral alcohols
INVENTOR(S): Tucker, Charles E.; Jiang, Qiongzhong
PATENT ASSIGNEE(S): DSM N.V., Neth.
SOURCE: U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of U.S.Ser.No. 57,826.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003181319	A1	20030925	US 2002-158560	20020521
US 2003144521	A1	20030731	US 2002-57826	20020124
US 6743921	B2	20040601		
WO 2003061826	A1	20030731	WO 2002-NL827	20021213

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

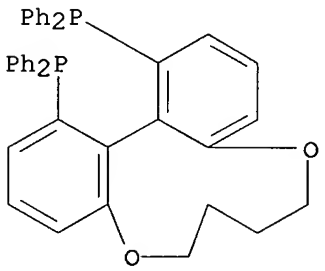
PRIORITY APPLN. INFO.: US 2002-57826 A2 20020124
US 2002-158560 A 20020521
OTHER SOURCE(S): MARPAT 139:276809

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, a bidentate amine ligand, and an organic base selected from alkylamidines, alkylguanidines, aminophosphazenes, and proazaphosphatranes. Thus, in a dry nitrogen-filled glovebox, a 20-mL glass reaction vial was charged with 5 mL 250 μL (1.25 μmol) [RuCl2(R,R,R,R-BICP)(DMF)n] (preparation given) in isopropanol, 5 mL isopropanol, and 125 μL 0.1 M (12.5 μmol) ethylenediamine in isopropanol. After stirring for several minutes, 73 μL (625 μmol) acetophenone was added, followed by 0.50 mL 0.1 M (50 μmol) tetramethyl-2-tert-butylguanidine in isopropanol. The glass reaction vial

containing the resulting mixture was sealed in an autoclave and then removed from the glovebox. The gas phase in the autoclave was replaced by hydrogen at 18 bar and the reaction mixture was stirred at room temperature for 6
h under 17-18 bar hydrogen to give, after silica gel chromatog., (S)-1-phenylethanol (77% e.e.).

IT 301847-90-5, (R)-C4-TunaPhos
RL: CAT (Catalyst use); USES (Uses)
(preparation of nonracemic chiral alcs. by stereoselective hydrogenation of ketone using catalyst system, comprising ruthenium complex, nonracemic chiral diphosphine ligand, bidentate amine ligand, and organic base)

RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 29 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:717728 CAPLUS
DOCUMENT NUMBER: 139:245769
TITLE: Process for preparing nonracemic chiral alcohols
INVENTOR(S): Tucker, Charles E.; Jiang, Qiongzhong
PATENT ASSIGNEE(S): Dsm N.V., Neth.
SOURCE: U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U. S. Ser. No. 57,826.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003171213	A1	20030911	US 2002-153421	20020521
US 6806378	B2	20041019		
US 2003144521	A1	20030731	US 2002-57826	20020124
US 6743921	B2	20040601		
WO 2003061824	A1	20030731	WO 2002-NL825	20021213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1465726	A1	20041013	EP 2002-786244	20021213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

PRIORITY APPLN. INFO.: US 2002-57826 A2 20020124

US 2002-153421 A 20020521
WO 2002-NL825 W 20021213

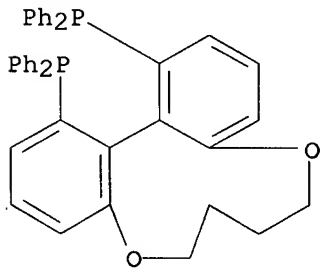
OTHER SOURCE(S): MARPAT 139:245769

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral aromatic alc. such as S-1-phenyl-1-ethanol by hydrogenation of a ketone such as acetophenone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, an amino-thioether ligand, and a base.

IT 301847-90-5
RL: CAT (Catalyst use); USES (Uses)
(preparing nonracemic chiral alcs. by hydrogenation of ketones in presence of ruthenium, nonracemic chiral diphosphine ligands, amino thioether ligands, and bases)

RN 301847-90-5 CAPLUS

CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 30 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:591067 CAPLUS
DOCUMENT NUMBER: 139:151398
TITLE: Process and ruthenium-based catalysts for preparing nonracemic chiral alcohols
INVENTOR(S): Tucker, Charles Edward; Jiang, Qiongzhong
PATENT ASSIGNEE(S): Dsm N.V., Neth.
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003061826	A1	20030731	WO 2002-NL827	20021213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003144521	A1	20030731	US 2002-57826	20020124
US 6743921	B2	20040601		
US 2003181319	A1	20030925	US 2002-158560	20020521

PRIORITY APPLN. INFO.: US 2002-57826 A 20020124
US 2002-158560 A 20020521

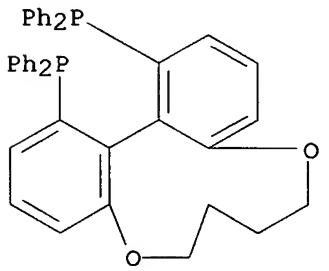
OTHER SOURCE(S): MARPAT 139:151398

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, a bidentate amine ligand, and an organic base selected from alkylamidines, alkylguanidines, aminophosphazenes, and proazaphosphatranes. Acetophenone was hydrogenated to S-1-phenethanol using a catalyst system prepared from RuCl2(benzene)2, (R,R,R,R)-2,2'-bis-(diphenylphosphino)-1,1'-dicyclopentane, ethylenediamine, and tetramethyl-2-t-butylguanidine.

IT 301847-90-5
RL: CAT (Catalyst use); USES (Uses)
(process and ruthenium-based catalysts for preparing nonracemic chiral alcs.)

RN 301847-90-5 CAPLUS

CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 31 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:591065 CAPLUS
DOCUMENT NUMBER: 139:151396
TITLE: Process for preparing nonracemic chiral alcohols using ruthenium-based catalysts
INVENTOR(S): Tucker, Charles Edward; Jiang, Qiongzhong
PATENT ASSIGNEE(S): Dsm N.V., Neth.
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003061824	A1	20030731	WO 2002-NL825	20021213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003144521	A1	20030731	US 2002-57826	20020124

US 6743921	B2	20040601			
US 2003171213	A1	20030911	US 2002-153421		20020521
US 6806378	B2	20041019			
EP 1465726	A1	20041013	EP 2002-786244		20021213

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRIORITY APPLN. INFO.:

US 2002-57826	A	20020124
US 2002-153421	A	20020521
WO 2002-NL825	W	20021213

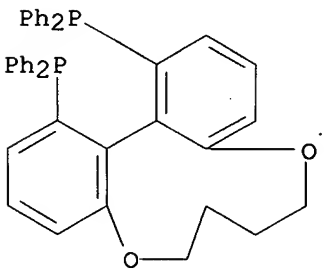
OTHER SOURCE(S): MARPAT 139:151396

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, an amino-thioether ligand, and a base. Acetophenone was hydrogenated to S-1-phenethanol using a catalyst system prepared from RuCl2(benzene)2, (R,R,R,R)-2,2'-bis-(diphenylphosphino)-1,1'-dicyclopentane, 2-(ethylthio)aniline, and tetramethyl-2-tert-butylguanidine.

IT 301847-90-5
RL: CAT (Catalyst use); USES (Uses)
(process for preparing nonracemic chiral alcs. using ruthenium-based catalysts)

RN 301847-90-5 CAPLUS

CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 32 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:541308 CAPLUS

DOCUMENT NUMBER: 139:230354

TITLE: Enantioselective Hydrogenation of Tetrasubstituted Olefins of Cyclic β-(Acylamino)acrylates

AUTHOR(S): Tang, Wenjun; Wu, Shulin; Zhang, Xumu

CORPORATE SOURCE: Department of Chemistry, Pennsylvania State University, University Park, PA, 16802, USA

SOURCE: Journal of the American Chemical Society (2003), 125(32), 9570-9571
CODEN: JACSAT; ISSN: 0002-7863

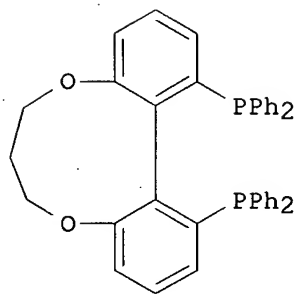
PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:230354

GI



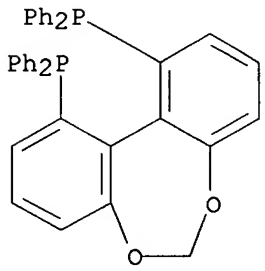
I

AB Hydrogenation of a series of cyclic β-(acylamino)acrylates with a tetrasubstituted olefin structure has been accomplished successfully with the use of Ru catalysts with chiral biaryl ligands such as C3-TunaPhos (I), and up to over 99% ee's have been achieved. This methodol. provides an efficient catalytic method for the synthesis of both cis and trans chiral cyclic β-amino acid derivs.

IT 486429-92-9 486429-93-0 486429-94-1
486429-95-2 486429-96-3 486429-99-6
RL: CAT (Catalyst use); USES (Uses)
(stereoselective hydrogenation of cyclic β-(acylamino)acrylates with tetrasubstituted olefin structure)

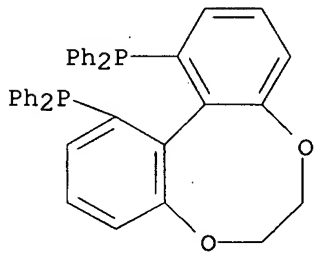
RN 486429-92-9 CAPLUS

CN Phosphine, (11aS)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



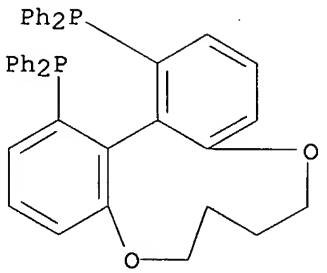
RN 486429-93-0 CAPLUS

CN Phosphine, [(12aS)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

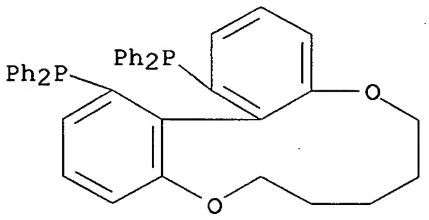


RN 486429-94-1 CAPLUS

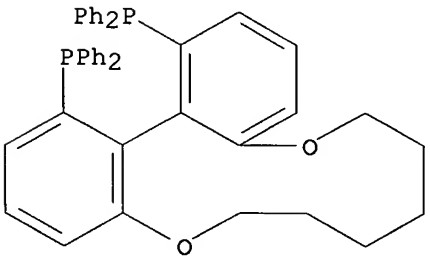
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



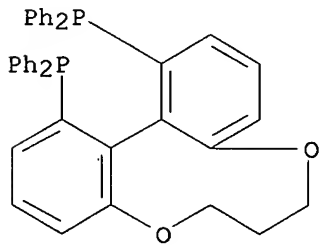
RN 486429-95-2 CAPLUS
CN Phosphine, [(15aS)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundec in-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-96-3 CAPLUS
CN Phosphine, [(16aS)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododec in-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



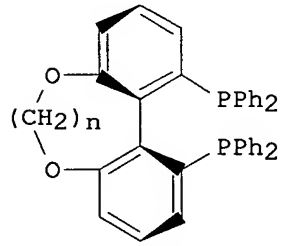
RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 33 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:860348 CAPLUS
DOCUMENT NUMBER: 138:106483
TITLE: Highly Enantioselective Hydrogenation of Enol Acetates Catalyzed by Ru-TunaPhos Complexes
AUTHOR(S): Wu, Shulin; Wang, Weimin; Tang, Wenjun; Lin, Min; Zhang, Xumu
CORPORATE SOURCE: Department of Chemistry, Pennsylvania State University, University Park, PA, 16802, USA
SOURCE: Organic Letters (2002), 4(25), 4495-4497
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:106483
GI

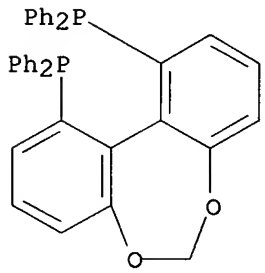


I

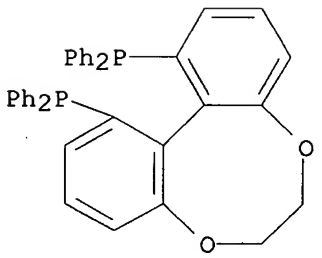
AB Chiral diphosphines I (n = 1-6) with tunable dihedral angles (TunaPhos) have been used for asym. hydrogenation of enol acetates and dihedral-angle-dependent enantioselectivities were observed C2-TunaPhos I (n = 2) has been proven to be effective for Ru-catalyzed asym. hydrogenation of electron-deficient and other enol acetates.

IT 486429-92-9 486429-93-0 486429-94-1
486429-95-2 486429-96-3 486429-99-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective preparation of arylalkyl esters via enantioselective hydrogenation of enol acetates catalyzed by Ru-TunaPhos complexes)

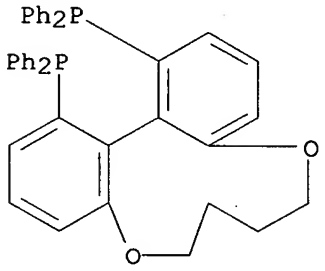
RN 486429-92-9 CAPLUS
CN Phosphine, (11aS)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



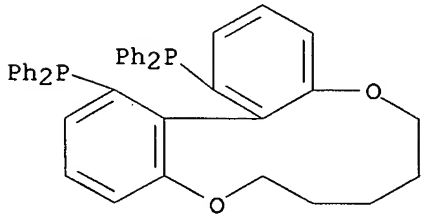
RN 486429-93-0 CAPLUS
CN Phosphine, [(12aS)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



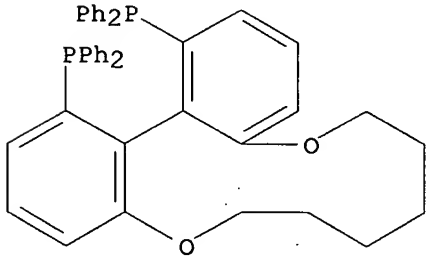
RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



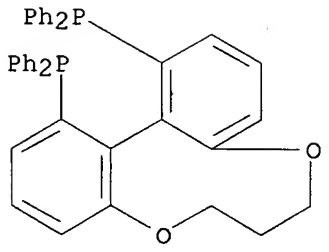
RN 486429-95-2 CAPLUS
CN Phosphine, [(15aS)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-96-3 CAPLUS
CN Phosphine, [(16aS)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



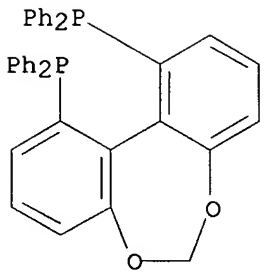
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 34 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:756468 CAPLUS
DOCUMENT NUMBER: 138:187577
TITLE: Highly enantioselective Rh-catalyzed intramolecular Alder-Ene reactions for the syntheses of chiral tetrahydrofurans
AUTHOR(S): Lei, Aiwen; He, Minsheng; Wu, Shulin; Zhang, Xumu
CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State University, University Park, PA, 16802, USA
SOURCE: Angewandte Chemie, International Edition (2002), 41(18), 3457-3460
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:187577

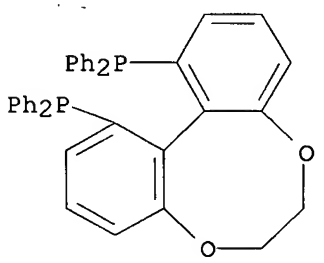
AB Over 99% ee was obtained for all the tested substrates in a Rh-catalyzed Alder-ene reaction. Simply mixing air-stable, com. available [[Rh(cod)Cl]2] (cod = 1,5-cyclopentadiene) and 2,2'-bis(diphenylphosphanyl)-1,1'-binaphthyl (BINAP) at room temperature afforded functionalized and chiral tetrahydrofurans in high yields with high efficiency (turnover frequency: 1500 h-1). The catalyst loading was as low as 0.8 mol %.

IT 486429-92-9, (11aS)-Dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenylphosphine] 486429-93-0, [(12aS)-6,7-Dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenylphosphine] 486429-94-1, [(14aS)-6,7,8,9-Tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenylphosphine] 486429-95-2, [(15aS)-7,8,9,10-Tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenylphosphine] 486429-96-3, [(16aS)-6,7,8,9,10,11-Hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenylphosphine] 486429-99-6, [(13aS)-7,8-Dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenylphosphine] 499797-10-3
RL: CAT (Catalyst use); USES (Uses)
(highly enantioselective rhodium-catalyzed intramol. Alder-ene reactions for synthesis of chiral tetrahydrofurans)

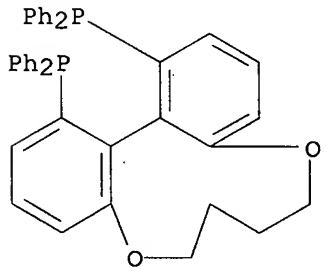
RN 486429-92-9 CAPLUS
CN Phosphine, (11aS)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



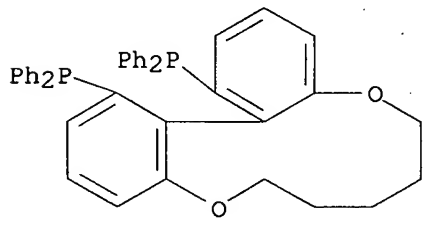
RN 486429-93-0 CAPLUS
CN Phosphine, [(12aS)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



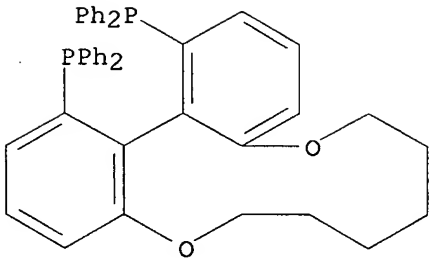
RN 486429-94-1 CAPLUS
CN Phosphine, [(14aS)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



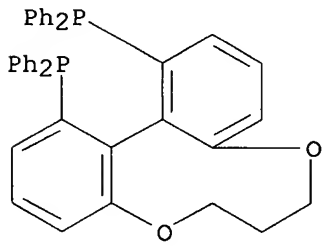
RN 486429-95-2 CAPLUS
CN Phosphine, [(15aS)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



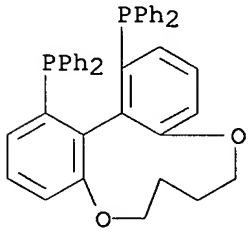
RN 486429-96-3 CAPLUS
CN Phosphine, [(16aS)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 486429-99-6 CAPLUS
CN Phosphine, [(13aS)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 499797-10-3 CAPLUS
CN Phosphine, (6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 35 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:539679 CAPLUS
DOCUMENT NUMBER: 137:109204
TITLE: Novel process for the synthesis of 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)-ethyl]-2-isopropyl-4-phenyl-1H-pyrrole-3-carboxylic acid N-phenylamide
INVENTOR(S): Butler, Donald Eugene; Dejong, Randall Lee; Nelson, Jade Douglas; Pamment, Michael Gerard; Stuk, Timothy Lee
PATENT ASSIGNEE(S): Warner-Lambert Company, USA
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2002055519	A2	20020718	WO 2001-IB2729		20011227
WO 2002055519	A3	20020919			
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
US 2002133026	A1	20020919	US 2001-15558		20011217
US 6476235	B2	20021105			
CA 2432064	A1	20020718	CA 2001-2432064		20011227
CA 2432064	C	20070911			
CA 2538995	A1	20020718	CA 2001-2538995		20011227
AU 2002222430	A1	20020724	AU 2002-222430		20011227
AU 2002222430	B2	20070517			
BR 2001016739	A	20030930	BR 2001-16739		20011227
EP 1353917	A2	20031022	EP 2001-273081		20011227
EP 1353917	B1	20070328			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
HU 200302647	A2	20031128	HU 2003-2647		20011227
JP 2004520351	T	20040708	JP 2002-556188		20011227
RU 2244714	C1	20050120	RU 2003-120510		20011227
CN 1696129	A	20051116	CN 2005-10005601		20011227
EP 1724256	A2	20061122	EP 2006-120052		20011227
EP 1724256	A3	20070321			
R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR, AL, LT, LV, MK, RO, SI					
EP 1728785	A1	20061206	EP 2006-120053		20011227
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EP 1734034	A2	20061220	EP 2006-120050		20011227
EP 1734034	A3	20070103			
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CN 1907984	A	20070207	CN 2006-10100633		20011227
AT 358126	T	20070415	AT 2001-273081		20011227
CN 101024626	A	20070829	CN 2006-10151843		20011227
US 6545153	B1	20030408	US 2002-198682		20020718
US 2003195353	A1	20031016	US 2003-348727		20030121
US 6933393	B2	20050823			
MX 2003PA05284	A	20030925	MX 2003-PA5284		20030612
ZA 2003004684	A	20040628	ZA 2003-4684		20030617
IN 2003MN00611	A	20050624	IN 2003-MN611		20030618
HK 1060572	A1	20051223	HK 2004-103610		20040521
IN 2004MN00395	A	20050429	IN 2004-MN395		20040719
IN 2004MN00396	A	20050429	IN 2004-MN396		20040719
US 2005239869	A1	20051027	US 2005-109396		20050419
US 7183408	B2	20070227			
IN 2006MN00406	A	20070608	IN 2006-MN406		20060410
US 2007032662	A1	20070208	US 2006-545870		20061011
US 2007032663	A1	20070208	US 2006-545899		20061011
US 2007032664	A1	20070208	US 2006-546047		20061011
PRIORITY APPLN. INFO.:			US 2001-260505P	P	20010109
			US 2001-15558	A3	20011217
			CA 2001-2432064	A3	20011227
			CN 2001-822509	A3	20011227

CN	2005-10005601	A3 20011227
EP	2001-273081	A3 20011227
WO	2001-IB2729	W 20011227
US	2002-198682	A3 20020718
US	2003-348727	A3 20030121
IN	2003-MN611	A3 20030618
IN	2004-MN396	A3 20040719
US	2005-109396	A3 20050419

GI

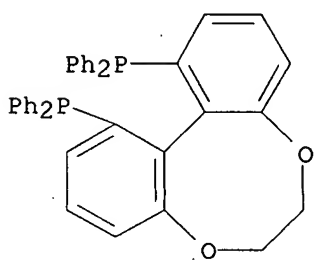
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An improved process for the preparation of 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)ethyl]-2-isopropyl-4-phenyl-1H-pyrrole-3-carboxylic acid phenylamide (I) was disclosed. Morpholine was condensed with Me cyanoacetate (MTBE, 55°, 12-18 h), the product reduced to the amine (MeOH, HCl, H2-Pt/C @ 50 psi, 24 h), converted from the hydrochloride to the phenylacetate salt, which was condensed with 2-[2-(4-fluorophenyl)-2-oxo-1-phenylethyl]-4-methyl-3-oxopentanoic acid phenylamide with removal of water (THF, 4-8 mesh 3Å ms, reflux, 24 h) to afford solid II. Et acetoacetate in THF was reacted with NaH at -20° (held at -10° 45 min) followed by n-BuLi at -18° (held at -4° for 90 min) followed by addition of II at -25° and held at -23° for 20 h yielding, after aqueous work-up, A-(CH2)2COCH2COCH2CO2Et (III). Reduction of III with a RuCl2(DMF)n[(+)-Cl-MeO-BIPHEP] complex (MeOH, 1M HBr, H2 @ 50 psi, 65°) to afford β,δ-dihydroxy ester IV in a 1:1.5 syn:anti with a ≥98% enantiomeric excess at the δ-hydroxy position in favor of the (R)-configuration (4 diastereomers separated by HPLC; Chiralcel-OD-H). Cyclization/elimination of IV (MeOHaq, KOH, 85°; PhMe, HCl; Ac2O, NEt3, DMAP) provides the 6-oxo-3,6-2H-pyran V (98% ee). Treatment of V with BnOH, NaOH at -10° for 19 h followed by hydrogenation (PhMe, 20% Pd(OH)2/C, 50 psi, 50°, 16 h) provided VI as a white solid (anti:syn 99:1, enantiomeric excess at the pyran C5 of 99% favoring the (R)-configuration). Alternate methods for several steps were provided. Utilization of VI for the preparation of atorvastatin calcium was also exemplified. Reduction of β,δ-diketo esters reported herein is more stereoselective, can be executed at lower pressures and is more amendable to large-scale manufacturing than prior art examples.

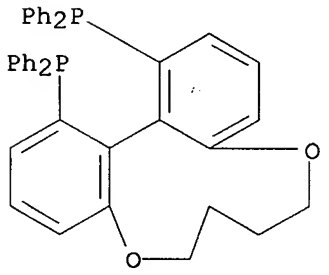
IT 301847-88-1D, BIPHEP, BINAP and TunaPhos ruthenium complexes
301847-90-5D, BIPHEP, BINAP and TunaPhos ruthenium complexes
RL: CAT (Catalyst use); USES (Uses)
(stereoselective reduction of a β,δ-diketo ester leading to 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)-ethyl]-2-iso-Pr-4-Ph-1H-pyrrole-3-carboxylic acid N-phenylamide)

RN 301847-88-1 CAPLUS

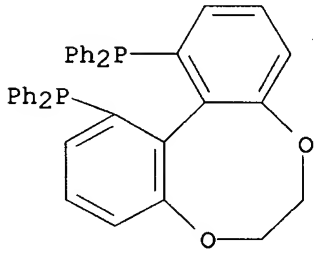
CN Phosphine, [(12aR)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



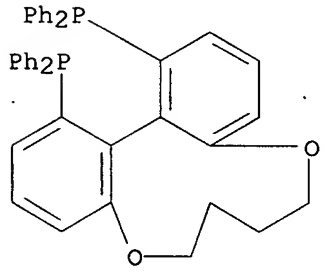
RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



IT 301847-88-1 301847-90-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective reduction of a β,δ-diketo ester leading to 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)-ethyl]-2-iso-Pr-4-Ph-1H-pyrrole-3-carboxylic acid N-phenylamide)
RN 301847-88-1 CAPLUS
CN Phosphine, [(12aR)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 36 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:597876 CAPLUS
DOCUMENT NUMBER: 135:180880
TITLE: Chiral ferrocene phosphines and their use in asymmetric catalytic reactions
INVENTOR(S): Zhang, Xumu
PATENT ASSIGNEE(S): The Penn State Research Foundation, USA
SOURCE: PCT Int. Appl., 107 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2001058588	A1	20010816	WO 2001-US4442		20010209
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
CA 2400183	A1	20010816	CA 2001-2400183		20010209
US 2002091280	A1	20020711	US 2001-781083		20010209
US 6534657	B2	20030318			
EP 1257360	A1	20021120	EP 2001-909127		20010209
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
JP 2003522162	T	20030722	JP 2001-557687		20010209
PRIORITY APPLN. INFO.:			US 2000-181448P	P	20000210
			US 2000-214167P	P	20000626
			WO 2001-US4442	W	20010209

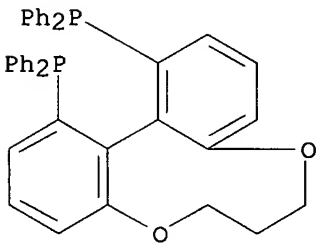
OTHER SOURCE(S): CASREACT 135:180880; MARPAT 135:180880

AB Metal complexes with ferrocene anchored chiral ligands are useful in asym. catalysis, such as hydrogenation and allylic alkylation. Thus, (S,S,S,S)ferrocene amide phosphine was prepared from (1S,2S)-diaminocyclohexane and chiral carboxyferrocenyl di-Ph phosphine and used in combination with (η3-allyl)PdCl2 to catalysis allylic alkylation between 2-cyclohexenyl acetate and di-Me malonate to give [(1R)-2-cyclohexen-1-yl]propanedioic acid di-Me ester in 61% and 20% ee (R).

IT 301847-89-2
RL: CAT (Catalyst use); USES (Uses)
(chiral ferrocene phosphines for asym. alkylation reaction catalysis)

RN 301847-89-2 CAPLUS

CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 37 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:319498 CAPLUS
DOCUMENT NUMBER: 134:326631
TITLE: Optically active diphosphine compound, production

intermediates therefor, transition metal complex containing the compound as ligand and asymmetric hydrogenation catalyst containing the complex

INVENTOR(S): Yokozawa, Tohru; Sayo, Noboru; Saito, Takao; Ishizaki, Takero

PATENT ASSIGNEE(S): Takasago International Corporation, Japan

SOURCE: Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1095946	A1	20010502	EP 2000-402997	20001027
EP 1095946	B1	20030827		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001131192	A	20010515	JP 1999-309976	19991029
AT 248181	T	20030915	AT 2000-402997	20001027
ES 2206162	T3	20040516	ES 2000-402997	20001027
US 6333291	B1	20011225	US 2000-698208	20001030

PRIORITY APPLN. INFO.: JP 1999-309976 A 19991029
OTHER SOURCE(S): MARPAT 134:326631

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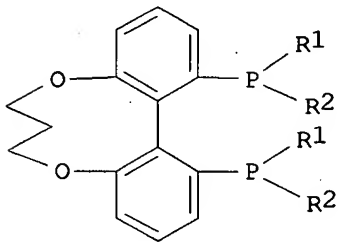


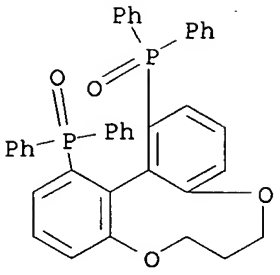
I

AB This invention provides a novel diphosphine compound which is useful as a ligand of catalysts for asym. synthesis reactions, particularly asym. hydrogenation reaction. Particularly, it provides a diphosphine compound I (R1, R2 = each independently represents a cycloalkyl group, an unsubstituted or substituted Ph group or a five-membered aromatic heterocycle residue). Thus, reaction of I (L, R1 = R2 = Ph), prepared in 5 steps starting from 3-bromophenol, with [Ru(p-cymene)I2]2 gave [RuI(p-cymene)(L)] which was used as catalyst for asym. hydrogenation of Me benzoylacetate.

IT 336879-57-3P 336879-61-9P 336879-64-2P
337359-57-6P 337359-58-7P 337359-59-8P
337359-60-1P 337359-61-2P 337359-92-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(ruthenium complex with optically active diphosphine ligand catalyzed asym. hydrogenation of)

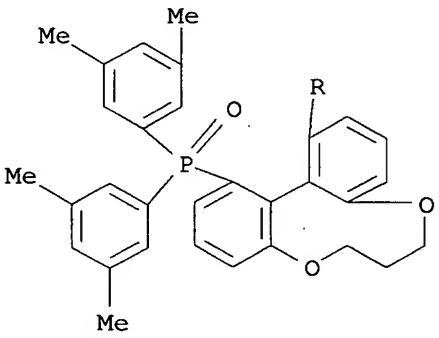
RN 336879-57-3 CAPLUS

CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

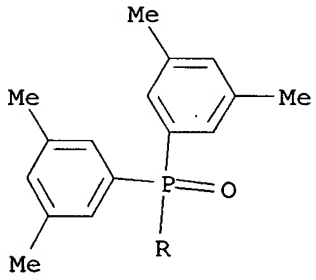


RN 336879-61-9 CAPLUS
CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

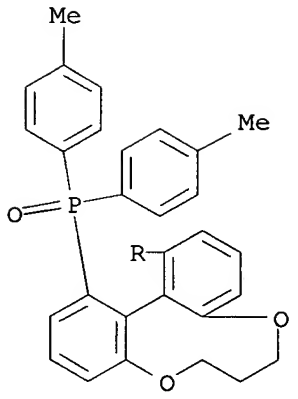


PAGE 2-A

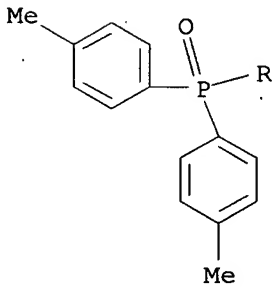


RN 336879-64-2 CAPLUS
CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

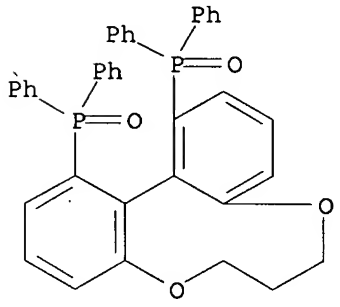
PAGE 1-A



PAGE 2-A

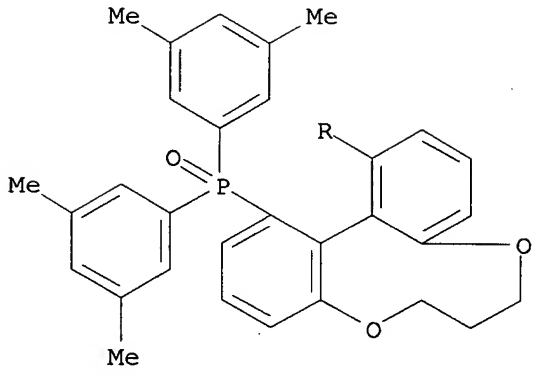


RN 337359-57-6 CAPLUS
CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[diphenyl-, (-)- (9CI) (CA INDEX NAME)



RN 337359-58-7 CAPLUS
CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(3,5-dimethylphenyl)-, (-)- (9CI) (CA INDEX NAME)

PAGE 1-A



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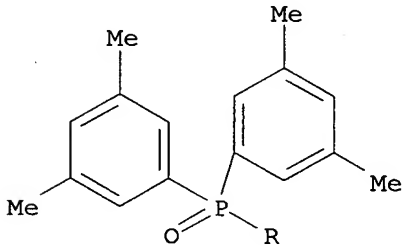
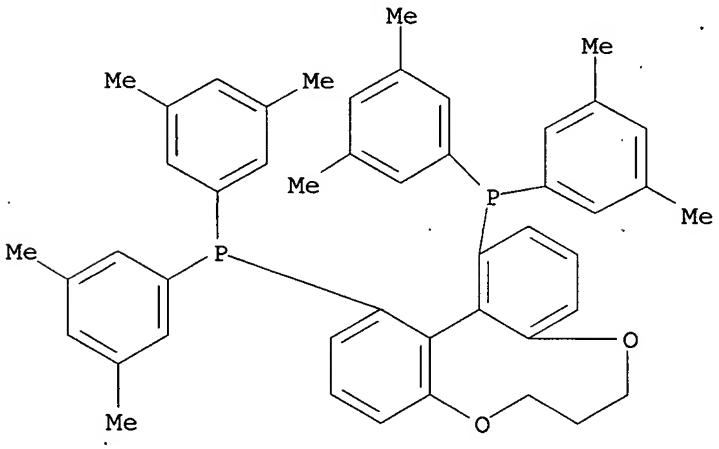
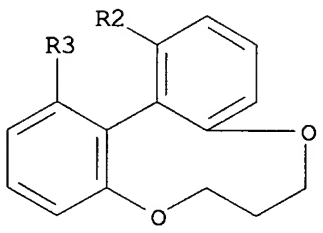


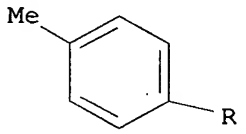
RN 337359-59-8 CAPLUS
CN Phosphine, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(3,5-dimethylphenyl)-, (-)- (9CI) (CA INDEX NAME)



RN 337359-60-1 CAPLUS
CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(4-methylphenyl)-, (-)- (9CI) (CA INDEX NAME)

PAGE 1-A





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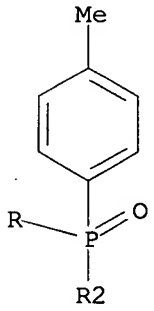
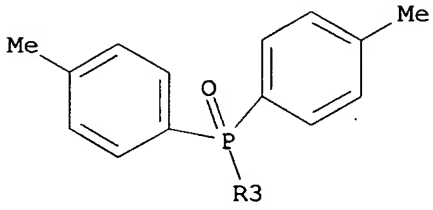
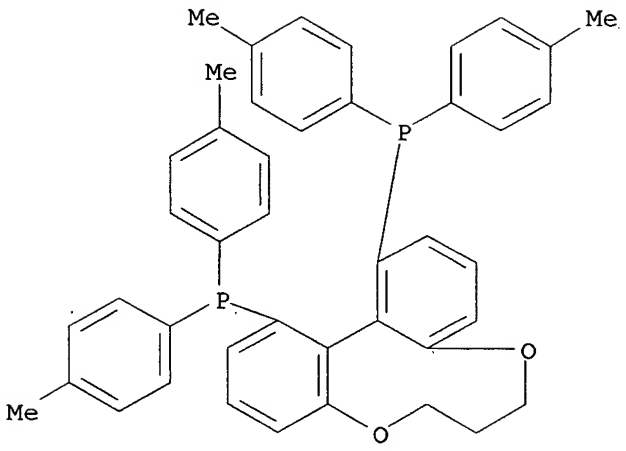
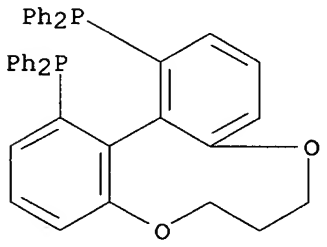




RN 337359-61-2 CAPLUS
CN Phosphine, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(4-methylphenyl)-, (-)- (9CI) (CA INDEX NAME)



RN 337359-92-9 CAPLUS
CN Phosphine, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[diphenyl-, (-)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 38 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:228894 CAPLUS
DOCUMENT NUMBER: 134:266437
TITLE: Chiral phosphines, transition metal complexes thereof and uses thereof in asymmetric reactions
INVENTOR(S): Zhang, Xumu
PATENT ASSIGNEE(S): Penn State Research Foundation, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001021625	A1	20010329	WO 2000-US25635	20000919

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2385421	A1	20010329	CA 2000-2385421		20000919
EP 1214328	A1	20020619	EP 2000-965136		20000919
EP 1214328	B1	20060503			
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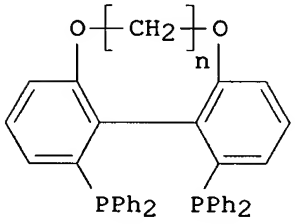
US 6521769	B1	20030218	US 2000-665456		20000919
JP 2003509513	T	20030311	JP 2001-525000		20000919
AT 324943	T	20060615	AT 2000-965136		20000919
ES 2263487	T3	20061216	ES 2000-965136		20000919
PRIORITY APPLN. INFO.:			US 1999-154845P	P	19990920
			WO 2000-US25635	W	20000919

OTHER SOURCE(S): CASREACT 134:266437; MARPAT 134:266437

GI



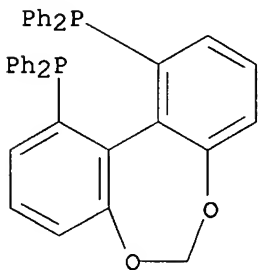
I

AB Chiral ligands and transition metal complexes based on such chiral ligands useful in asym. catalysis are disclosed. The chiral ligands include chiral C1-C6-TunaPhos ligands I (n = 1-6). The ruthenium TunaPhos complex reduces ketones to the corresponding alcs. with 95-99.6 % enantioselectivity. The transition metal complexes of the chiral ligands are useful in asym. reactions such as asym. hydrogenation, hydride transfer, hydrosilylation, hydroboration, hydrovinylation, hydroformylation, hydrocarboxylation, isomerization, allylic alkylation, cyclopropanation, Diels-Alder reaction, Heck reaction, isomerization, Aldol reaction, Michael addition and epoxidn. reactions.

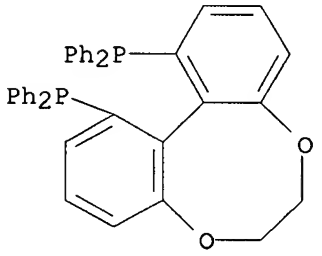
IT 301847-87-0P, (R)-C1-TunaPhos 301847-88-1P, (R)-C2-TunaPhos 301847-89-2P, (R)-C3-TunaPhos 301847-90-5P, (R)-C4-TunaPhos 301847-91-6P, (R)-C5-TunaPhos 301847-92-7P, (R)-C6-TunaPhos
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation as cocatalyst in transition metal complex catalyzed asym. reactions)

RN 301847-87-0 CAPLUS

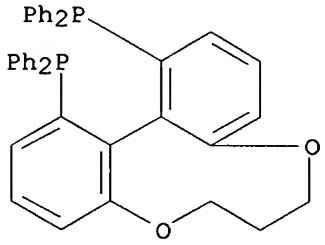
CN Phosphine, (11aR)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



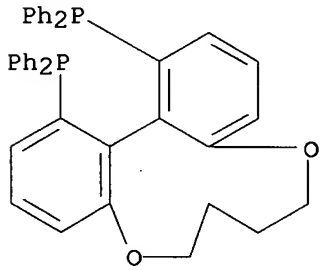
RN 301847-88-1 CAPLUS
CN Phosphine, [(12aR)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



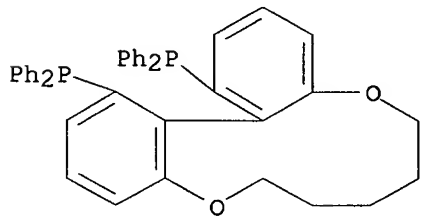
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



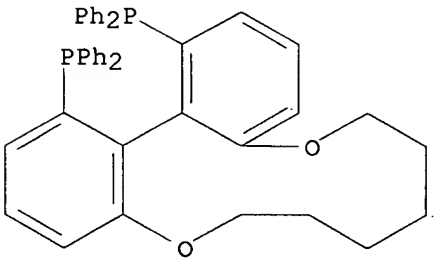
RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 301847-91-6 CAPLUS
CN Phosphine, [(15aR)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 301847-92-7 CAPLUS
CN Phosphine, [(16aR)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



IT 331768-59-3 331768-60-6 331768-61-7
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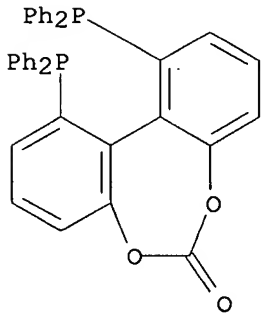
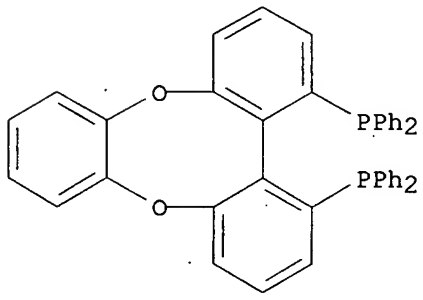
331768-68-4 331768-69-5 331768-72-0
331768-73-1 331768-74-2 331768-75-3
RL: CAT (Catalyst use); USES (Uses)
(preparation of chiral diphosphines as cocatalyst in transition metal complex catalyzed asym. reactions)

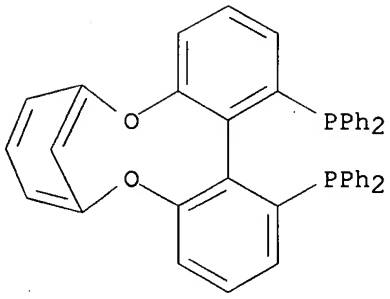
RN 331768-59-3 CAPLUS
CN Dibenzo[d,f][1,3]dioxepin-6-one, 1,11-bis(diphenylphosphino)-, (11aR)-(9CI) (CA INDEX NAME)



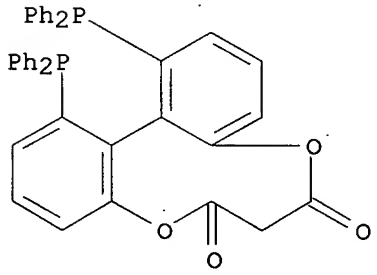
RN 331768-60-6 CAPLUS
CN Phosphine, (14aR)-tribenzo[b,e,g][1,4]dioxocin-1,14-diylbis[diphenyl-(9CI) (CA INDEX NAME)



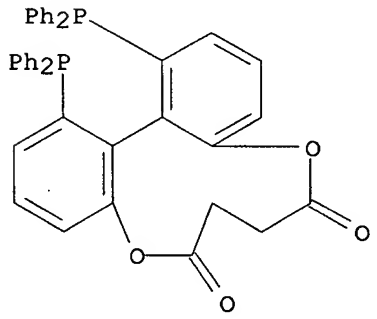
RN 331768-61-7 CAPLUS
CN Phosphine, (15aR)-10,6-metheno-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diylbis[diphenyl- (9CI) (CA INDEX NAME)



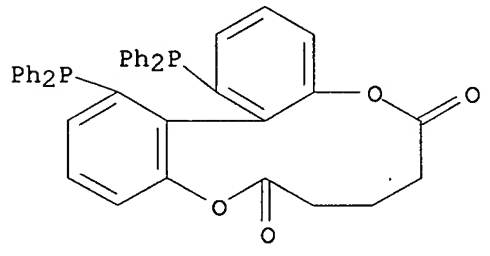
RN 331768-62-8 CAPLUS
CN 6H-Dibenzo[f,h][1,5]dioxonin-6,8(7H)-dione, 1,13-bis(diphenylphosphino)-, (13aR)- (9CI) (CA INDEX NAME)



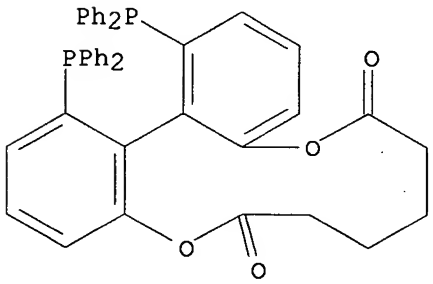
RN 331768-63-9 CAPLUS
CN Dibenzo[b,d][1,6]dioxecin-6,9-dione, 1,14-bis(diphenylphosphino)-7,8-dihydro-, (14aR)- (9CI) (CA INDEX NAME)



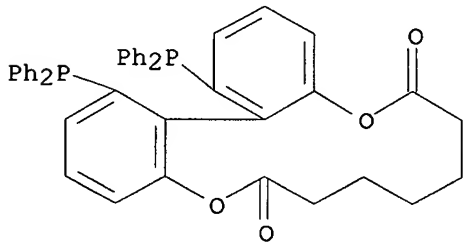
RN 331768-64-0 CAPLUS
CN 6H-Dibenzo[b,d][1,6]dioxacycloundecin-6,10(7H)-dione, 1,15-bis(diphenylphosphino)-8,9-dihydro-, (15aR)- (9CI) (CA INDEX NAME)



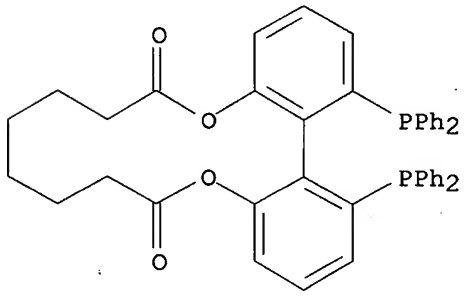
RN 331768-65-1 CAPLUS
CN Dibenzo[b,d][1,6]dioxacyclododecin-6,11-dione, 1,16-bis(diphenylphosphino)-7,8,9,10-tetrahydro-, (16aR)- (9CI) (CA INDEX NAME)



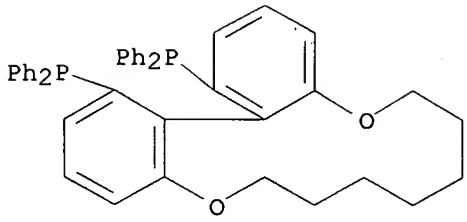
RN 331768-66-2 CAPLUS
CN 6H-Dibenzo[b,d][1,6]dioxacyclotridecin-6,12(7H)-dione, 1,17-bis(diphenylphosphino)-8,9,10,11-tetrahydro-, (17aR)- (9CI) (CA INDEX NAME)



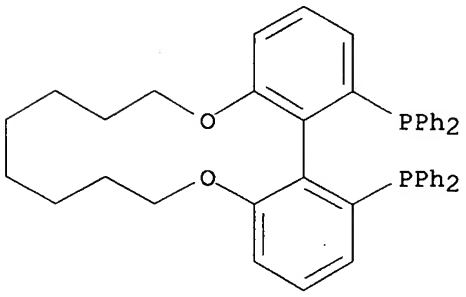
RN 331768-67-3 CAPLUS
CN Dibenzo[b,d][1,6]dioxacyclotetradecin-6,13-dione, 1,18-bis(diphenylphosphino)-7,8,9,10,11,12-hexahydro-, (18aR)- (9CI) (CA INDEX NAME)



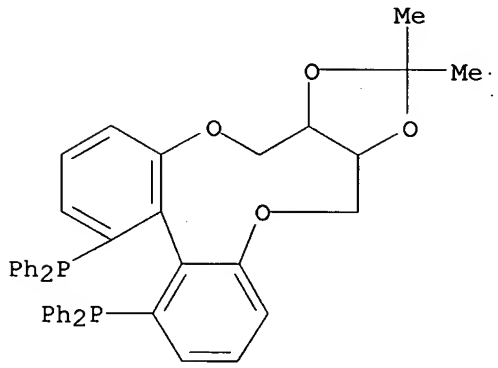
RN 331768-68-4 CAPLUS
CN Phosphine, [(17aR)-7,8,9,10,11,12-hexahydro-6H-dibenzo[b,d][1,6]dioxacyclotridecin-1,17-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



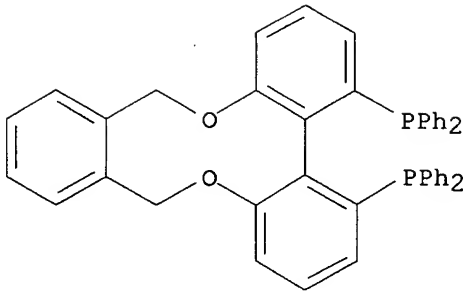
RN 331768-69-5 CAPLUS
CN Dibenzo[b,d][1,6]dioxacyclotetradecin, 1,18-bis(diphenylphosphino)-6,7,8,9,10,11,12,13-octahydro-, (18aR)- (9CI) (CA INDEX NAME)



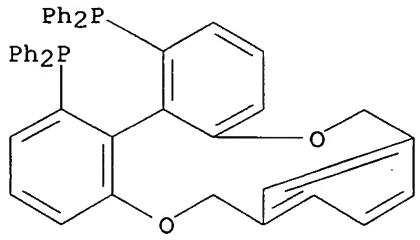
RN 331768-72-0 CAPLUS
CN Phosphine, [(3aR,9aR,15aR)-3a,4,15,15a-tetrahydro-2,2-dimethyldibenzo[b,d]-1,3-dioxolo[4,5-h][1,6]dioxecin-9,10-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



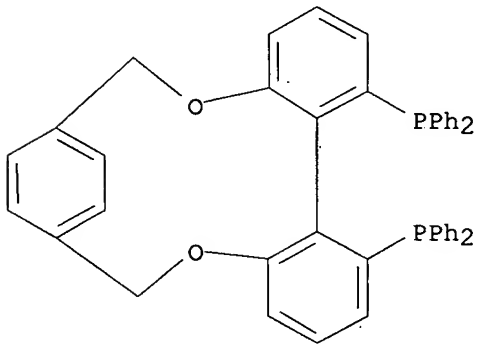
RN 331768-73-1 CAPLUS
CN Phosphine, [(16aR)-6,11-dihydrotribenzo[b,d,h][1,6]dioxecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 331768-74-2 CAPLUS
CN Phosphine, (17aR)-12H-7,11-metheno-6H-dibenzo[b,d][1,6]dioxacyclotridecin-1,17-diylbis[diphenyl- (9CI) (CA INDEX NAME)



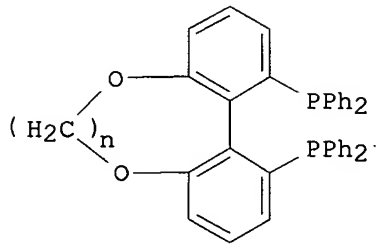
RN 331768-75-3 CAPLUS
CN Phosphine, [(16aR)-6,11-dihydro-7,10-ethenodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 39 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:574233 CAPLUS
DOCUMENT NUMBER: 133:309942
TITLE: Synthesis of Chiral Bisphosphines with Tunable Bite Angles and Their Applications in Asymmetric Hydrogenation of β-Ketoesters
AUTHOR(S): Zhang, Zhaoguo; Qian, Hu; Longmire, James; Zhang, Xumu
CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State University, University Park, PA, 16802, USA
SOURCE: Journal of Organic Chemistry (2000), 65(19), 6223-6226
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal

LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:309942
GI

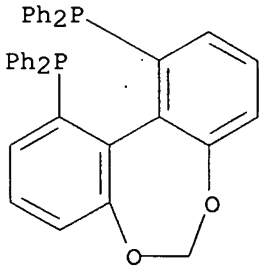


I

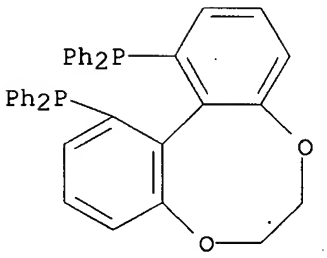
AB A series of chiral bisphosphines I (n = 1-6) with tunable dihedral angles were prepared for the first time and used for Ru-catalyzed asym. hydrogenation of β-ketoesters. Enantioselectivities with the Ru-I (n = 4) catalyst are comparable or better than those observed with Ru-BINAP and Ru-MeO-BIPHEP complexes, while enantioselectivities in asym. hydrogenation of β-ketoesters are low with other catalysts e.g., Ru-I (n = 1, 6). The current study demonstrates the concept that changes in ligand dihedral angles indeed cause significant variations of enantioselectivity.

IT 301847-87-0P 301847-88-1P 301847-89-2P
301847-90-5P 301847-91-6P 301847-92-7P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(synthesis of chiral bisphosphines with tunable bite angles and applications in asym. hydrogenation of beta-ketoesters)

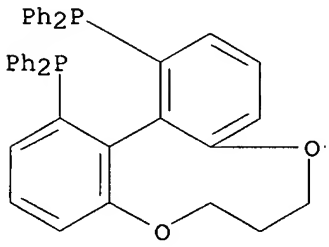
RN 301847-87-0 CAPLUS
CN Phosphine, (11aR)-dibenzo[d,f][1,3]dioxepin-1,11-diylbis[diphenyl- (9CI) (CA INDEX NAME)



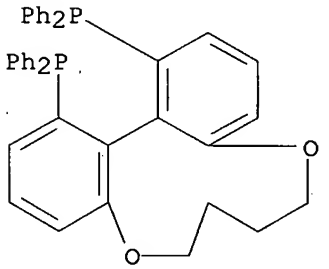
RN 301847-88-1 CAPLUS
CN Phosphine, [(12aR)-6,7-dihydrodibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



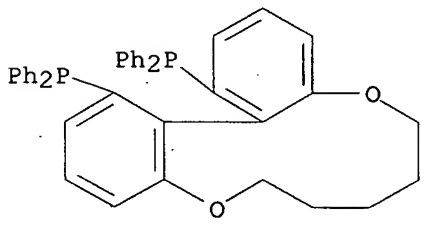
RN 301847-89-2 CAPLUS
CN Phosphine, [(13aR)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



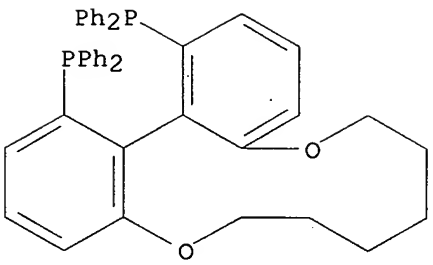
RN 301847-90-5 CAPLUS
CN Phosphine, 1,1'-[(14aR)-6,7,8,9-tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 301847-91-6 CAPLUS
CN Phosphine, [(15aR)-7,8,9,10-tetrahydro-6H-dibenzo[b,d][1,6]dioxacycloundecin-1,15-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 301847-92-7 CAPLUS
CN Phosphine, [(16aR)-6,7,8,9,10,11-hexahydrodibenzo[b,d][1,6]dioxacyclododecin-1,16-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



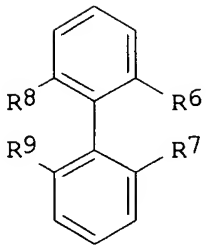
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 40 OF 40 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:351206 CAPLUS
DOCUMENT NUMBER: 133:4801
TITLE: Preparation of chiral diphenyldiphosphines and d-8 metal complexes thereof as hydrogenation catalysts
INVENTOR(S): Pugin, Benoit; Steiner, Ivo; Aufdenblatten, Rhony Niklaus; Togni, Antonio
PATENT ASSIGNEE(S): Solvias A.-G., Switz.
SOURCE: Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1002801	A1	20000524	EP 1999-122865	19991117
EP 1002801	B1	20030618		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2290009	A1	20000519	CA 1999-2290009	19991117
US 6281390	B1	20010828	US 1999-441519	19991117
AT 243216	T	20030715	AT 1999-122865	19991117
JP 2000154156	A	20000606	JP 1999-328983	19991119
US 2001056210	A1	20011227	US 2001-899205	20010706
US 6515183	B2	20030204		
US 2003120122	A1	20030626	US 2002-314391	20021209

PRIORITY APPLN. INFO.:
CH 1998-2319 A 19981119
US 1999-441519 A3 19991117
US 2001-899205 A3 20010706

OTHER SOURCE(S): MARPAT 133:4801
GI



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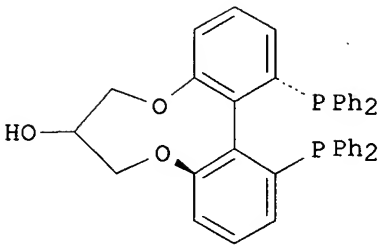


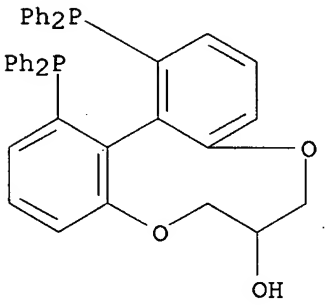
II

AB The preparation of title compds., I (R6, R7 = same or different secondary phosphino; R8 = CH2OH, CH2NH2, CH2-O-B-FU, CH2-NH2-B-FU, O-B-FU; R9 = same as R8 or C1-4 alkyl, C1-4 alkoxy; R8R9 = HOCH(CH2O)2, H2NCH(CH2O)2, FU-B-OCH(CH2O)2, FU-B-HNCH(CH2O)2; B = bridging group; FU = functional group), useful as cocatalysts for hydrogenation reaction, is described. The compds. may be bonded to inorg. or organic carriers. Their d-8 metal complexes are valuable catalysts for the enantioselective hydrogenation of prochiral organic compds. with carbon multiple bonds or carbon/hetero atom multiple bonds. Thus, reaction of (S)-6,6'-dihydroxydiphenyl-2,2'-diphenyldiphosphine with epibromohydrin in MeCN gave 32.7% title compound II, which was immobilized on silica gel to give the cocatalyst. Hydrogenation of acetamidocinnamic acid with [Rh(NBD)2]BF4 catalyst and above cocatalyst is described.

IT 270253-35-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with isocyanatopropyltriethoxysilane)

RN 270253-35-5 CAPLUS

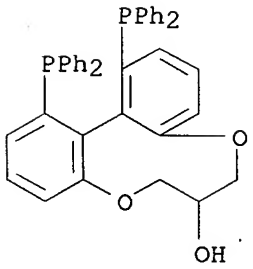
CN 6H-Dibenzo[f,h][1,5]dioxonin-7-ol, 1,13-bis(diphenylphosphino)-7,8-dihydro-, (13aR)- (9CI) (CA INDEX NAME)



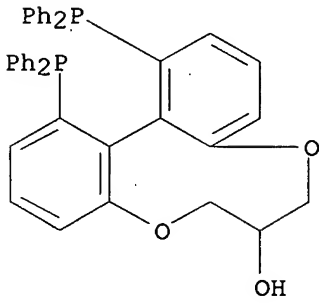
IT 270251-06-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with phenoxy resin)

RN 270251-06-4 CAPLUS

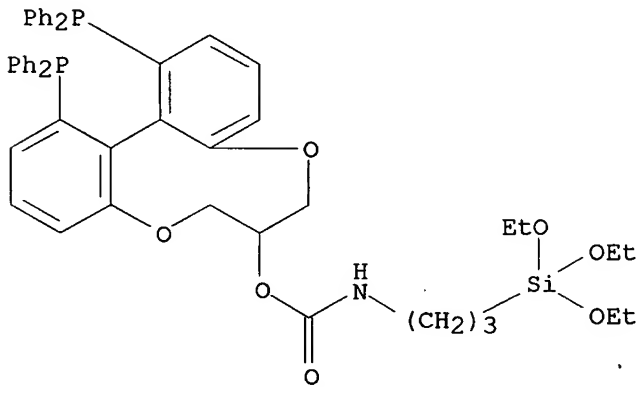
CN 6H-Dibenzo[f,h][1,5]dioxonin-7-ol, 1,13-bis(diphenylphosphino)-7,8-dihydro- (9CI) (CA INDEX NAME)



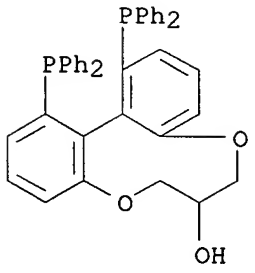
IT 270253-36-6P 270253-37-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with silica gel)
RN 270253-36-6 CAPLUS
CN 6H-Dibenzo[f,h][1,5]dioxonin-7-ol, 1,13-bis(diphenylphosphino)-7,8-dihydro-, (13aS)- (9CI) (CA INDEX NAME)



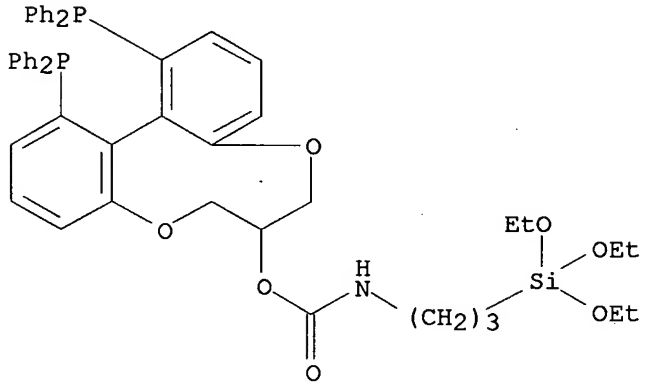
RN 270253-37-7 CAPLUS
CN Carbamic acid, [3-(triethoxysilyl)propyl]-, (13aR)-1,13-bis(diphenylphosphino)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-7-yl ester (9CI) (CA INDEX NAME)



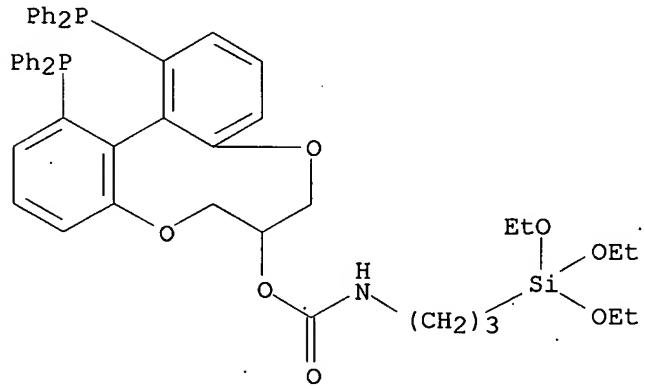
IT 270251-06-4DP, poly(bisphenol-A-bisglycidyl ether) (phenoxy resin) immobilized 270253-37-7DP, silica gel immobilized
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of chiral diphenyldiphosphines and their d-8 metal complexes as hydrogenation catalysts)
RN 270251-06-4 CAPLUS
CN 6H-Dibenzo[f,h][1,5]dioxonin-7-ol, 1,13-bis(diphenylphosphino)-7,8-dihydro- (9CI) (CA INDEX NAME)



RN 270253-37-7 CAPLUS
CN Carbamic acid, [3-(triethoxysilyl)propyl]-, (13aR)-1,13-bis(diphenylphosphino)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-7-yl ester (9CI) (CA INDEX NAME)



IT 270253-38-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of chiral diphenyldiphosphines and their d-8 metal complexes as hydrogenation catalysts)
RN 270253-38-8 CAPLUS
CN Carbamic acid, [3-(triethoxysilyl)propyl]-, (13aS)-1,13-bis(diphenylphosphino)-7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-7-yl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	212.21	384.97

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-31.20	-31.20

STN INTERNATIONAL LOGOFF AT 10:16:48 ON 03 OCT 2007